1
C
LIBRARY
OHIO AGRICULTURAL EXPERIMENT STATION
211
Pat

Ohio Cultivator

VOL. XVIII. COLUMBUS, JANUARY 1, 1862. No. 1.

Issued on the First of every Month — Terms, Fifty Cents a Year.

HARRIS & HURD, Proprietors. SULLIVAN D. HARRIS, Editor.

46,366

The Farm.

Organism of Soils,

And their adaptations to Crops and Live Stock.

[Gen. L. V. Bierce has placed in our hands a copy of his address delivered at several fairs in Portage Co. this season. The Gen. runs considerably to practical science, and the following extracts from the address embody a good exhibit of information in this line, for a lawyer.—ED. FIELD NOTES.]

Farming should be carried on so as to make the land more productive each year. Lands, in England, that have been cultivated for two hundred years, now produce from forty to fifty bushels of wheat to the acre—and some lands, there, have produced as high as eighty bushels.

The reason why all parts of the earth are not equally productive, aside from the difference in climate, is owing to the chemical properties of the soil, and their adaptation to the growth of plants. The peculiar study of a good farmer is to understand this difference, and the proper remedies to be applied in order to correct any natural deficiency, or to maintain a proper balance. If there is too much sulphuric acid in the soil, it will be seen, and produce sorrel, sour dock, fern, and sour grass. If clover is sown on such land, it will be slow to catch—and catch in patches, and the roots be thrown out of the ground by frost. Such will be the effect on strawberry plants, which are frequently found two or three inches out of the ground in the Spring.—On such land apply lime, and keep off plaster.

If the land is destitute of sulphuric acid, worn out, and the vegetable matter in the soil exhausted, keep off the lime—it will destroy the little fertility there may be in it. On such land apply vegetable manure; then sow on plaster. Plaster and vegetable manure will do well together. Lime and manure will not.

If the vegetable matter in the soil is exhausted so that it requires vegetable manure, and the land is overcharged with sulphuric acid so as to require lime, put the manure on three or four months before the application of the lime, so that the manure may become incorporated with the soil before the lime disengages the fertilizing properties from it.

Some farmers, too, sow lime with their wheat. At the risk of being contradicted by some, I say this is wrong—at least, it is not economical. Unless it is made of fossil limestone, it is too gross for the wheat to use. Before wheat can use lime to advantage, the lime must be prepared by some more gross feeding plant. Sow land to clover, and then if it wants lime, sow lime. Clover, being a gross feeder, will draw up the lime, and incorporate it in its own body—then plow the clover under, and the lime, having been refined by passing through the growth of clover, is fitted to be drawn up the rootlets of the wheat.

To know whether lime is good for land, it is necessary, then, not only to know the constituents of the land, but of what kind of stone the lime is made. Two per cent. of lime made from the common blue limestone, will burn up vegetation, and render land entirely barren, while the best crops of wheat in England are raised on soils in which there is fifty and sixty per cent. of lime.

The reason is our blue limestone is too crude to be used by plants of a higher order. That in England is made from fossil limestone—that is, from sea shells, and by passing through the animal organism, has been refined, and fitted for plants. To make myself understood: A fence rail or a rock, will produce moss, but not wheat. In the growth of the moss, particles of the rail or rock are used, and incorporated in the moss.

—but still they are not sufficiently refined to produce plants of a higher order. To produce such plants, the moss must be rotted, when the dust will produce plants of an order higher than moss, but not as high as wheat. By continuing this system of refinement, it will, at length, be sufficiently refined to produce wheat.

It is on this principle that lime made from the blue lime stone is too gross for wheat, and should be first passed through the organism of clover, when it is fitted for wheat.

Among the most important considerations with the farmer are the various modes of preparing his fields in their annual tillage, and the best, and most economical fertilizers to be applied to them to prevent the exhaustion of the soil, and consequent barrenness. The first thing to be considered is the nature and constituents of the soil itself. To treat a clay soil as we would a dry, sandy one, is as inappropriate as to give hay to a hog, or buttermilk to a horse. A clay soil is too compact, and requires unrotted manure plowed into it to separate the particles of earth, and make the soil loose. A sandy soil is too loose, and leaches.—Manure applied to such land will leach down through it, and be lost. On such land clay and leached ashes are the best application, as they puddle it and prevent leaching.

Muck land requires a different treatment from either. In our muck swamps there is a kind of resinous matter that prevents the vegetable matter from decomposition. On such land the first application should be lime, which combines with the resinous matter, and forms soap, which will then aid in decomposing the vegetable matter, and if the water is drained off, it will form a first rate soil. Where lime is scarce and expensive, a system of drainage, and then digging off the surface, and placing it in heaps to rot, will effect the same object in part, but will not make as good a soil as when mixed with lime. The reason is, that such land has a large element of acid in it, which requires an alkali to neutralize it. Ashes, for this purpose, are good, and the farmer who sells his ashes is robbing his farm. For a little temporary convenience he is inflicting a lasting injury on his soil, that will be seen, and felt, years after he is in his grave.

Another matter that requires a serious examination, in forming an opinion as to what his land requires, is one to which I have already referred—whether his land is highly charged with sulphuric acid, or destitute of it. A little observation is sufficient to ascertain this fact. If there is iron rust in the soil, or on the stones, or on top of the water standing on the soil, it indicates sulphuric acid. If grass seed sown over it is slow to catch, or sod over, or catches in patches, it indicates sulphuric acid. If the roots of clover, and herdsgrass in the Spring stand 2 or 3 inches out of the ground, and in detached parcels, with bare ground between, it is the work of sulphuric acid. The acid has killed the grass on the bare spots, and eat it up. On such land put on lime, and keep off plaster. The reason I have before given—plaster being composed of sulphuric acid and lime—by putting this on, more acid is added where there is already too much. By applying lime, it combines with the acid and forms plaster, thus neutralizing the acid.—On land deficient in sulphuric acid, plaster is good, as the acid in the plaster aids in decomposing the vegetable matter in the soil, and fits it for nourishing the plants. When there is an excess of sulphuric acid, it eats up the vegetation, both dead and living. This is the reason why soils overcharged with acid are always deficient in vegetable matter — unless in the case of muck-swamp land, to which, with the reason for it, I have already referred. The presence of this acid is the cause of sorrel, sour dock, and sour grass. The land is literaly sour, and Nature is trying to throw it off through these excrescences.

The rule, then, is if your land produces sorrel, sour dock, and sour grass, it has too much acid in it, and wants lime—if destitute of acid, it wants plaster.

Intimately connected with this subject, is a question often asked—Does white clover turn to sorrel, or sorrel turn to white clover?

Appearances often indicate such changes. but sorrel can no more turn to clover, or clover to sorrel, than a horse can turn into a sheep.

Having occasion, a few years ago, to turf over a bank, I procured my turf from the sides of the road. Soon after, there came up the most perfect crop of snake tooth sorrel I ever saw. The leaves so completely covered the earth that not anything but sorrel was to be seen. For an experiment, I sowed on it a bountiful supply of air slaked lime, until it looked as if covered with snow. In a few weeks there was not a sorrel leaf to be seen, but as beautiful a crop of white clover as a farmer could desire.

White clover and sorrel require the same

kind of land, except that sorrel requires one ingredient in the soil that is fatal to clover. Sorrel requires a large amount of acid in the soil—clover does not. Take a piece of land that produces sorrel, and lime it freely, and the sorrel will die for want of acid, and white clover will come in. Supply the acid again, and the clover will die and sorrel again come in. A person may thus change from sorrel to white clover, and from clover to sorrel—not by one turning into the other, but by changing the ingredients that enter into their composition.

The sulphuric acid is caused by the decomposition of iron in the soil. Iron in the soil, when fully oxydized, or completely changed to rust, is good for plants—but while passing through the chemical changes to arrive at that state, it produces the acid. When fully oxydized, or rusted, it is good—before that, it is sour and bad. The great object of every person, then, having land containing a large amount of iron, should be to dissolve the iron and change it to rust as soon as possible. This can be done by subsoil plowing, bringing up the iron from below, and exposing it to the action of the atmosphere. This, by oxydizing, or rusting it, will destroy the acid. The application of lime to it will greatly hasten the operation. This is one of the great benefits of subsoiling.

Many plants require a large amount of sand in their composition. The outside coat of straw, the cornstalk and sugar cane are mostly composed of sand. In the common scouring rush, sand is so abundant that fire may be struck from it. Pure sand has been procured by burning wheat straw in a receiver, so as to prevent the escape of any particles by the combustion. The sand used in the formation of plants has to be drawn up from the earth by the rootlets—and must, of course, be in a liquid state. To render it liquid, potash is necessary, which may be supplied by ashes. This shows the importance of keeping all the ashes a person can make, and applying them to his land.

Another necessary ingredient of the soil, without which plants and animals cannot exist, is phosphate of lime. This is the same substance as bones, and is the material of which they are composed. This substance is composed of phosporic acid and lime, chemically combined. If land is destitute of either lime or phosphoric acid the phosphate of lime cannot exist, and the land is destitute of the material for the formation of bones. Phosphate of lime is drawn up from the soil by the roots of plants; becomes incorporated in the plant, is eaten by animals, and, in the form of bones, becomes a part of the animal organism. The young of most animals, both before and after birth, derive the material for their development from the mother. Therefore, unless the mother possesses the material required for their development, she cannot impart it to her young. Suppose the land on which a cow is pastured does not possess phosphate of lime—how is her offspring to obtain the material for its bones? Unless we endow them with the divine attribute of Deity to create something out of nothing, the offspring must grow up a heap of flesh, but deficient in bones—as weak and helpless as a potato vine that grows in the dark.

A cow takes from the earth each year as much phosphate of lime as will make fifty-two pounds of bones. It becomrs incorporated with the body, and enters largely into the milk, giving it body and richness. The young take it in the form of milk, and it forms bones and healthy animals. If the phosphate of lime is wanting in the milk, it is but water filtered through a cow, possessing neither nourishment, nor the material for the development of the young. The want of phosphate of lime in the soil is the reason why milk men in cities are compelled to thicken their milk with chalk or magnesia. Children raised on it lack the material for bones—which is the reason why children raised in cities form so puny a race, compared with the rosy-cheeked erubescent specimens of humanity in the country.

To prevent the exhaustion of phosphate of lime in the soil, farmers should save all the old bones, and either reduce them to bone dust, or by composting them with ashes, dissolve them, and apply them to the soil at the rate of fifty-two pounds of bones to each acre, yearly. One dollar's worth of old thus applied, is worth ten dollars of stable manure.

The milk of cows kept stabled, or in pastures destitute of phosphate of lime, becomes putrid, and the effect of it on infants and children, who use it as a daily food, is weakness, sickness and premature death.

The subject of phosphate of lime in the soil is one of the most important to the farmer. It furnishes richness and nourishment to milk, bones for animals, and flour to the wheat kernel. No grain can mature without it. The truth ot these propositions can be seen in cattle and vegetables. Thus, the large boned and fully developed cattle are from the chalky regions of England—or the lime regions of Pickaway, Sandusky,

Kentucky, or other lime regions. Our soil is wanting in lime—and cattle may be kept fat, but will dwindle in size, and bone.

Wheat, too, grown on land destitute of phosphate of lime, but rich in other ingredients, may show a large growth of stalk, but the heads will be as empty as a charity box. If the lime is made from fossil limestone, it should be sown and dragged in with the wheat. If it is made from blue, or unorganized limestone, it should be refined by a growth of clover and plowed in with the clover.

A deficiency of phosphate of lime may also be seen in root crops—such as beets and parsnips—showing large tops, but the roots all branches.

All must see the necessity of lime in the soil—and if it is reduced below one per cent., or one part in a hundred, all the stable manure in the world would not make it produce wheat. A large crop of stalks may be obtained, but no fully developed heads.

When the lime in the soil is so diminished that it will not produce wheat, oats and potatoes will flourish, as they require, comparatively, little lime. A crop of oats takes from an acre of land 96 pounds of sand, 22 of phosphoric acid, 6 of sulphuric acid, 9 of magnesia, 4 of soda, 6 of common salt, 36 of potash, and twelve of lime. One half the weight of potato ashes is potash, and about one seventh is sulphuric acid.

In oats and potatoes, but a small portion of the ingredients required for wheat are found—but they draw largely on potash and the acids, which wheat does not want. As oats and potatoes draw so largely on the soil for potash, phosphoric and sulphuric acid, every farmer should know the quantity his soil contains, and the amount each crop draws from it, so as to avoid exhausting it.

There is, on an average, about one-fourth of a pound of potash to every one hundred pounds of soil—1-8 of a pound of phosphoric acid, and 1-16 of a pound of sulphuric acid. If oats and potatoes are continually raised on the same land, and the crops removed without returning an eqvivalent, they will soon exhaust the potash and phosphoric acid. Continued wheat cropping will exhaust the lime—continued corn cropping will exhaust the sulphuric acid. This shows the necessity of a rotation of crops, and that the rotation should be based on scientific principles. A rotation of crops of the same character would do no good. A rotation of wheat and potatoes is good, as the potatoes use the potash that wheat does not want, but use very little sand and lime that wheat does want. Grass, cabbage, melons and potatoes use the clay and potash; but during the growth of those plants, the sand and lime have time to replenish, and the soil is again prepared for wheat.

Every farmer, then, should study his soil, and learn its component parts. He should learn the component parts of the different crops he wishes to raise, and will then know what crops his soil is fitted for; and if his land is deficient in any ingredient that is needed, to supply it. He will learn that in the rotation of crops, corn should never follow buckwheat. It will diminish his crop at least one-fourth. Potatoes are the best crop to precede corn—grass the next, corn itself next, oats next, and last of all buckwheat.

In short, a crop should never follow another that has drawn from the earth the minerals required for the development of the succeeding crop.

Sulphur, too, is an important ingredient in the soil—especially in land used for sheep pasture. There are 5 pounds of sulphur in every 100 pounds of wool. If the sulphur is not in the soil the sheep cannot get it, and the wool will be deficient. The plants draw the sulphur from the soil, and it is eaten by the sheep, thus furnishing nutriment for the wool. If sulphur is wanted in the soil, gypsum or plaster should be applied—which contains the required ingredient in the form of sulphuric acid.

Sheep should never be kept on limestone land. Lime will combine with the oil in the wool, and change it to soap, rendering the wool harsh and brittle. It is on this account that the native English sheep have long, coarse, hairy fleeces.*

Iron, too, is an important ingredient in the soil—for animals and vegetables. All the red color, in the blood of animals, is iron. The iron is drawn from the earth by the plants, and is eaten by animals, and becomes a component part of the animal. It the soil is deficient in iron, the plants necessarily become so, and man and beast and vegetation suffer for the want of it. In the human races the want of this ingredient produces debility—which is weakness without apparent disease; in the horse, yellow water, in the peace tree, "the yellows." The remedy for all is iron. To man it is given in the form of sour drops; to horses, in a muriate tincture of iron; to peach trees, in iron scales from a blacksmith's anvil, or copperas water poured on the roots. For trees so affected, scrape the earth away from the roots, and pour on each half a peck of iron

scales, or an ounce of copperas dissolved in water. These will be drawn up in the pores of the wood, and restore health.

Perhaps I have detained you too long on the composition of the soil; but I have even now only entered on the threshold of the subject. It is a beautiful study, and inexhaustible; but I must pass from it to touch on another branch of agriculture—the raising of crops.

---

*We must differ with our author on this question of lime in the wool, which is only a theory as untenable as the exploded notion of silica in straw. We never saw greasyer or sleeker sheep than flocks grazing upon the lime ledges of New England.—Ed. *Field Notes*

Preparations for Flax Culture.

The manufacturers of flax fabrics in Ireland have not been able to obtain a sufficient supply of flax for several years past. Its cultivation has not kept pace with its manufactures. This has led the linen manufacturers of that country to send agents to Canada this season, and to urge the farmers to engage in the cultivation of this fibrous material. A correspondent of the Canadian *Agriculturist* states that many of the farmers in Ireland have sold their flax this autumn for about $100 per acre, standing in the field, and from $250 to $500 per ton for fair qualities. These are high prices, and if cotton cannot be obtained to supply the demand for cloth next year, flax will be sought to make up the deficiency, and thus very remunerative prices may be expected by those who engage in its cultivation. We have never seen short flax cotton which could be spun on what is called "cotton machinery," but it may be quite possible to modify the present machinery in cotton factories so as to adapt it for flax spinning, in which case the demand for flax will become great beyond all calculation. We have received a specimen of very good coarse yarn, made chiefly of flax cotton, which was made upon an improved spinning frame, for which a patent was issued to F. S. Stoddard, on the 22d of April last, and assigned to Mr. Edward Coe, of New Haven, Conn. This is an improvement in the right direction, and may lead to most important results in the future manufacture of flax fabrics.

We direct attention to this subject at the present time, as those who intend to engage in cultivating flax as a crop should prepare the soil this fall, if they would attain to success in their efforts. The land best suited for the growth of flax has a clay subsoil and a mellow top soil. It should be grubbed, to destroy weeds, then plowed very deep (trenched if possible) in the fall, so as to mix some of the clay with the active soil. At the same time, although clayey soil produces the heaviest crops, and the best qualities of flax, any good loamy soil will yield remuneratively under proper treatment. The object of deep plowing before winter is to expose the under soil to the action of moisture, air and frost, so as to render it more porous and mellow. It has been the experience of all farmers with stiff soils that plowing in the fall is almost equal to a coating of manure. The reason of this is well known to chemists. Such soils, when rendered porous, always absorb and retain a considerable quantity of that active fertilizer ammonia from rains, snow and the atmosphere. In Ireland, flax is usually sown after wheat, oats or barley, and seldom after root crops. The following is an artificial manure recommended for flax crops by Professor Hodges, of Belfast:—

Muriate of potash	30 lb.
Chlorode of sodium (common salt)	28 lb.
Burned gypsum, powdered	34 lb.
Bone dust	54 lb.
Sulphate of magnesia (epsom salts)	56 lb.

This quantity is sufficient for one acre, and is said to answer a good purpose.

After the winter is past, and the frost and snow have disappeared, and when the ground has become sufficiently dry, the soil which had been previously deep plowed in fall, should be gone over with a fine-toothed harrow and a roller, successively, until the top is as finely pulverized as an onion bed, and the bottom has become somewhat packed, so as to retain considerable moisture, without which the crop will be a failure. When the time for sowing arrives, the land should be marked into ridges, twelve feet wide, to facilitate the sowing and pulling; and the seed at the rate of about twenty-four gallons to the acre, sown and harrowed with a light clover drill, then rolled. If the land be in good condition, this will be an excellent preparation for clover, which is often sown with flax. Unless the soil is cultivated properly, and put into the very best condition, like a seed bed in a garden, a crop of good flax cannot be expected. In efforts which have been made by our American farmers, in the cultivation of fine flax, they have usually failed, on account of not preparing the soil in a suitable manner for the reception of the seed, and, so far as we have observed, in a few special cases, they

have used too little seed. It is far better to err in sowing thick than thin, for when the stalks come up from thinly-sowed seed, they grow very rank. Riga flax seed is allowed to be the best, and yields a longer stalk than the American seed, and, whenever it can be obtained it should be preferred; but the native seed also yields very beautiful flax, and, if the foreign quality is too extravagant in price, the native should be preferred.

At the present moment there is a far greater demand in our market for flax than can be supplied. A gentleman interested in the flax business said to us a few days since "a million of acres should be sown with flax seed next spring; our farmers will find a market for all they can raise."

Old Time Farming in the West.

J. S. Copeland, an old citizen of Marion, O. in a late letter to the Boston Cultivator, narrates several interesting items of western history.

In 1854 I travelled from La Fayette, Ind., to the Ohio river, on the east bank of the Wabash river, distance, 160 miles. On either side of the Wabash it was a "sea of corn," almost the whole distance. I do not recollect of seeing an intervening crop (on river bottom) of anything else, save some pasturage. I was told that from its first settlement it had yearly been in corn. Between the ancient towns of Terre Haute and Vincennes, there was much to interest the traveler and farmer. We traveled the old Indian trail, or State road, in a covered waggon *without springs* drawn by four horses, carrying four passengers and the mail, a distance of 64 miles in 20 successive hours! We saw several *old* orchards, and many scattering apple trees on either side of the road along the fence. Several of these apple trees we judged to be between three and four feet in *diameter*, some few near or quite four feet. I have never seen in any other place, apple trees near equal in size to these.

Arrived at Vincennes, I spent some hours in viewing the quaint style of the old buildings. They were all old, yet gave evidence of having been in their day, stylish and comfortable, and made some show of wealth, for a new country. The population is about 3000. Taking a road for a mile into the country, I came to a field of corn, being then harvested, and speaking to an elderly, intelligent-looking man, I said: You have an excellent crop of corn. He answered: "Yes sir, tolerable; it has been a good season for corn."

Judging from the height and size of the stalks I suppose it was manured, said I. He laughed aloud, saying: "No sir, I know of no crops manured in this section of the country, unless it is in town, where those that have stables have to move the manure on their lots."

Can you tell me how long this field has grown corn? "No sir, I cannot; probably a hundred years or more; possibly a hundred and fifty years."

Pray sir, how long has this portion of the country been settled? "We had permanent settlements here two years before Penn laid out the city of Philadelphia."

I recollect, said I, that this was the seat of Government for the Great North-west Territory. "Certainly," said he. "I now remember that in a stage coach from Wheeling to Baltimore in 1827, I heard Gen. Harrison describe his government farming at Vincennes, when he was Govener of the Territory. He said he had between 3000 and 4000 acres in corn in one inclosure, it being necessary for the cavalry, many teams, and for making beef and pork for the army, friendly Indians, immigrants etc." Can you tell me if this enclosure formed a part of his great cornfield? "I cannot sir, but I think not; the large brick Government house, built by Gen. Harrison for the Territorial Legislature and offices, now converted into a hotel, was north of the town." I soon found the Government House with a large rich prairie adjoining where the "big cornfield" may have been.

In vol. 43 of Hunt's Merchant's Magazine are some "Statistics of Early-grown Wheat in the United States." It is here stated that "Wheat was shipped from the Wabash Valley to Orleans in 1746." This was 42 years before the first permanent settlement of Ohio at Marietta. Mr. Bancroft dates the settlement of Vincennes in 1702. The settlement at Marietta commenced in April, 1778. One of the original settlers is yet living at the age of 81 years—Dr. Goodale, of Columbus, a bachelor of much wealth, still active, a liberal benefactor and participator in the most of the laudible and humane enterprises of the day. He was an army surgeon in the war of 1812. In one of my interviews with him he said: "I was eight years old when I landed at Marietta with my father," (Major Goodale who fell in the Indian war, fighting under Authur St. Clair). "I recollect," he continued, "accompanying my father to a small field, with a pair of black horses which we brought from Coy's Hill, in Brookfield Mass. I

rode the rear horse, and when we had done my father said 'he guessed this was the first bushel of wheat ever sown in Ohio.'"

TIMBER.

The following are a few species of timber trees, of minor importance to the builder, but still useful for many purposes of construction.

Acacia is of small dimensions, seldom exceeding two feet in diameter, but when used in house-carpentry is very durable.—It is harder, tougher and more elastic than the best oak. It is valuable timber for tree-nails for ship-nails; also, for post and rails for fences, in which capacity it is very enduring.

Alder.—The wood of this tree lasts a long time under water, which renders it valuable for piles, water-pipes, etc. It has a close texture, a fine color, and works well under the plane, which makes it a favorite with the cabinet-maker. The best charcoal for gun-powder is made from this wood. When burned in the open air, 1,000 lbs. of the ashes yield 65 lbs. of potash.

Birch.—This wood is hard but not very durable. It is chiefly used for making cheap furniture and for fire-wood.

Box is a valuable wood, being very close-grained, hard and heavy, and cuts very clean under the chisel or graving tool, being, therefore, used almost exclusively by the wood-engraver. Being susceptible of a fine polish, it is much used by the turner, mathematical instrument maker, &c. It is also very durable.

Cedar (*Cedrus pinus*) grows to a great size; the timber is resinous, of a reddish white color, light and spongy in its texture, easily worked, but apt to shrink and warp if great attention be not paid to the seasoning. It was much valued by the ancients for its durability and preservative properties. The wood is odoriferous, and admirably adapted for joiner-work, being light and easily worked. Although resinous wood, it contains but a small quantity of that substance. It resists the attack of insects.

Cedar, Indian, (*Cedrus deodara,*) is also a very large tree. The wood is very compact, highly impregnated with resin, and possessed of a hard and fine grain, Its durability, when exposed to the weather, is very great; some bridges constructed of it in India have lasted for five hundred years. It is much used by the Hindoos in their buildings.

Chestnut, (*Castanea*) has been already mentioned as a very excellent timber for building purposes. The horse-chestnut, on the other hand, is a soft, inferior wood, of but little strength or durability. It resists moisture, however, and may advantageously be used for water-pipes under ground.

Cypress is a fine-grained wood, remarkable for its great durability and its freedom from injury by worms or insects. Owing to this property it was employed in Egypt for mummy-cases.

Hornbeam is a hard, heavy, tenacious wood, very close-grained. It is much used for cogs of wheels and other engineering purposes, where the material is exposed to friction.

Lignum Vitæ is a very hard, dense wood, much used by millwrights and turners; its chief use, however, is for the sheaves of blocks. It is also employed by the engineer for lining the sockets of shafts, which are found to revolve in it with little friction and wear.

Lime, though a highly ornamental tree, and growing to a great size, is not of much value for its timber, which is soft and light, and deficient in strength and durability.—Being close-grained and smooth in its texture, however, it is well adapted for carving and cabinet work.

Maple is a clean, white wood, prized for its lightness, and is used by the turner for making dishes, bowls and trenchers, and by the joiner for common furniture. As it is not liable to warp or split, it is readily stained to imitate mahogany and other woods.

Plane.—The wood of this tree much resembles the beech. It is used by the joiner and cabinet-maker, but is not remarkable for strength or endurance. It keeps best under water, and is used in America for quays and other marine works.

Poplar.—The wood of this tree (of which several kinds are grown in this country,) is much used by builders for floors, especially as it does not easily split by driving nails into it, and it has the property of not readily catching fire. When used for this purpose, however, it requires from two to three years seasoning, as it shrinks much in drying.

Sycamore, when kept dry, is durable, but is readily attacked by the worm. It is a species of maple, and is possessed of similar qualities.

Walnut is one of the most valuable of English timbers. The wood is solid and compact, easy to work, not liable to crack

or warp, and handsome in appearance; it is, therefore, much used for the better class of furniture. The screws of presses and gun stocks are generally made of it. The black Virginia walnut is the most prized. It prefers hilly, calcareous soils.

Willow is a soft, smooth light wood of little value; but if kept dry, it will last a long time in situations where much strength is not required.

Yew was principally used of old for the making of bows, and is now a favorite wood with turners, from the smoothness and toughness of its grain, and from its taking a high polish. It sometimes attains an extraordinary bulk. At Gresford near Wrexham, there is a yew 29 feet in circumference at a little distancebelow the branches; and in Dibden churhyard, New-Forest, there is a yew tree measuring 30 feet in girth at the ground, while others, of a large size, occur at Iffley, Hampton Court, Dorley-in-the-Dale, Tisbury, and other places. When found growing in churchyards, they may be generally as coeval with the church itself.—*Merchant's Magazine.*

Veterinary.

For the Ohio Cultivator.

Worms in Horses.

It is a notorious fact that numerous animals live in and on the bodies of horses, burrowing beneath their skins and nestling in their entrails. A frequent tenant of the horse's intestines is the long, round and the long flat corrugated worm; these worms inhabit the small intestines, and are sometimes found in the stomach and large intestines. A third species called the thread worm, live principally in the rectum, they frequently exist in large quantities, causing intolerable itching and irritation, creating so much distress that the horse frequently rubs the hair from the tail. Then the sages in horse medicine will order the lampas to be burnt out, the enlarged palate being the supposed cause of the horse rubbing the hair off his tail.

It is not an uncommon thing to find large quantities of these worms in the large intestines, sometimes hundreds of them are attached to the mucus membrane of the first of the large intestines. With respect to the animals we have been describing, the question is, how they came there. First, science has discovered there is no ascertained relation between the structure of intestinal worms, and of animals having an independent existence out of the body. Secondly, certain species of worms occupy special parts of the alimentary canal, each having their peculiar nidus, and die whenever they are delivered therefrom.

It is claimed in that common affection of horses called bots, that a species of gad-fly deposits its eggs upon the animal's hide, causing some irritation, the horse licks that part with his tongue, the eggs are thus conveyed into the mouth, hence they reach the stomach, there converted into larvæ and affix themselves to the insensible coat of the stomach. To this theory there may be some dissention. I have a fetus among my specimens, not more than four months in the period of gestation; upon examination of the contents of the stomach by the aid of the microscope three miniature bots were discovered floating in the contents. How did the bots get there?

But however much we may be in the dark as to the mode in which the worms reach their habitation, we do know something of the circumstances that appear to favour their production and multiplication. They prevail most in the weak and unthrifty; they are more abundant in some situations than others. Wherever there is debility of the digestive organs worms are apt to congregate.

The symptoms by which the existence of worms can be ascertained or suspected are equivocal, except the actual appearance of one or more of the animals; yet they give rise to a variety of morbid phenomena; the most common are colicky pains, rubbing of nose and roots of the tail, voracious and insatiable appetite, irregular bowels, strange nervous symptoms, and a dry hacking cough.

I once examined a horse that died from epilepsy; the stomach and small intestines contained an enormous quantity of long flat worms. If we consider the effects likely to be produced from sympathy or reflection

by the irritation to the mucus membrane of the intestines, highly sensitive as it is, we need feel no surprise at the affection of distant parts.

The treatment for worms, like all diseases of the horse is frequently at variance with practical science. My plan of treatment is to look to the apparent origin or cause of an over amount of worms in the horse, and see if we cannot assist nature to get rid of her enemies, by appropriate diet, gruel, flax-seed tea, bitter tonic drinks, alterative balls or powders. Reduce the inflammatory irritation of the intestinal membrane; this being done, we may have recourse to more powerful remedies.

For the small worms that infest the rectum, causing so much annoyance about the tail, give a turpentine injection: turpentine six ounces, the yolks of two eggs, thin flour gruel two quarts; mix. This may be given three times a week. Between the time of giving the injections, before feeding in the morning, give calomel one to two drachms, meal four drachms, simple syrup to form a ball. Diet the horse; the next day give aloes from six to eight drachms, ginger four drachms, oil of cloves 20 drops, syrup to form a ball; feed on bran mashes and give chilled water to drink. Regulate the doses by the age, constitution and form of the animal.

T. Webb, V. S.

Zanesville, Ohio, Nov. 1861.

For the Ohio Cultivator.

Epidemic among Cattle—Sore Tongue.

Your correspondent "H. B." of Hamilton county, writing of the Black Tongue among cattle, says that in referring to Youatt on Cattle, he could neither find Founder or Black Tongue. That might be, but on page 256 he will find the epidemic of 1840 and '41, which describes the disease which has prevailed on the State line, between Indiana and Ohio, in the counties of Franklin, Ind., and Butler, O.

I have had five or six head attacked with the disease: several of the young cattle acted as though they were foundered, but no other symptoms perceivable; they got well without any medicine or doctoring of any kind. Two milch cows got sick at the same time, and failed to give milk; the saliva, so to speak, began to issue from their mouths, at the same time their tongues were somewhat swollen and black, with a tenderness or lameness in their feet. I followed the prescriptions laid down by Youatt, which are:

Epsom salts, ½ lb.; sulphur, ¼ lb.; niter, ½ oz.; spirits of niter, ether 1 oz.; ginger, 2 drachms; dissolved in warm water or gruel, which makes one dose, that must be repeated for several days, or until the cow begins to get better.

Liniment for the mouth: Take alum and white vitriol, ½ oz. each; ¼ of a pint of molasses, dissolved in a pint of warm water.

If it is thought necessary to dress the feet, the prescription can be found on the same page with the last prescription, which is page 258. Those who have not got Youatt on Cattle, will find it in the Township library, [or can have it sent from the office of *Field Notes* for $1.]

One of my cows was a very hard case; she could not pick up any food from the ground. I had to put soft corn into her mouth, and push it well down to the grinders, in consequence of her tongue being so sore and swollen that she could not take her food into her mouth. I gave her flax-seed tea, with molasses, ginger and niter ether. I had a third cow that failed of her milk, and the disease was comparatively light, so that she never failed to eat. I treated her as my neighbors treated some of theirs; gave her a piece of fat pork, and she got well. I suppose that she would have got well any how.

One man had a cow that got so poor that he had to help her up; he gave her neither food or medicine; his excuse was that it only irritated her mouth, and made it more feverish. As low as she was, she finally got well. One other man had two cows sick with the same disorder, and he had got them about well, and then turned them out where they got wet, and they took a relapse and both of them died. W. W.

Franklin Co., Ind., Nov., 1861.

For the Ohio Cultivator.

To Kill Bots in Horses.

Take three pints of sweet milk, and one pint of molasses or one pound of sugar, well mixed. About twenty minutes after giving this to the horse, give him about the same quantity of strong sage tea with two ounces of pulverised alum in it.

This has been successfully tried by John W. Chittenden of Switzerland county, and and he says that the bots eat the milk and molasses like they do blood, and when the alum strikes them it instantly kills them, and it is a good physic too. We understand that a physician in New Castle, Ky., was putting live bots into numerous acids to find one that would kill them, when one accidently fell into some alum-water which was on the table. He found that it cramped the bots and they immediately died. It has a similar result where ever it touches them.

W. E. Spear.

Bennington, Ind. Dec. 1861.

For the Ohio Cultivator.

Enterites, or Inflammation of the Bowels.

The essential symptoms of this disease are violent abdominal pains. Inflammation may affect both the peritoneal and the mucous of the intestines, and in violent cases all the coats may become implicated. It is of much practical importance to discriminate between enterites and colic. It generally commences with rigor, a hard and frequent pulse; but it often begins with colicy symptoms. If we mistake colic for inflammation of the bowels, the error is of no consequence, but the opposite, which is more common, may be fatal, hence the necessity of a carefull diagnosis.

Errors are often committed by the owners, and by those who make pretentions to the cure of the diseases of horses, by administering stimulating cordials and carminatives; these will exasperate the symptoms and increase the mischief when the disease is inflammation of the bowels.

It is frequently this kind of treatment that urges colic into a serious disease, if there be a doubt, it is better to act on the most unfavorable supposition, and treat the case as if we were sure inflammation was present. The lives of many valuable horses have been saved by such a mode of practice.

The pain in this disease is increased by pressure; in colic it is actualy mitigated. In inflammation of the bowels there are paroxysms of severe pains determined by the peristaltic movements or by temporary distension of the inflamed part of the bowels. It is also observed that the animal will lie on his back, and balance himself for a long time; the position appears to give him ease.

In bad cases, as the disease proceeds the bowels begin to swell, conveying the idea to those not acquainted with the disease that it is a case of flatulent colic. The pulse intermits or beats irregulary, the extremities grow cold, cold sweats bedew the body, the eye appears wild and the countenance generally depressed.

One point in the management of this disease requiring great caution and judgment, relates to the exhibition of purgative medicine; the costive state of the bowels is apt to be looked upon as the difficulty, but more horses have died from the quantity of drugs given them than from disease. Strong diastic purgatives will increase sickness and add to abdominal pains. Experience has proved that purgatives makes no part of the treatment of inflamed bowels, on the contrary they are hurtful; until the inflamed stage has passed, we must wait the effect of other measures, as blood-letting, fomentation, blisters to the abdomen, mild laxitives as will not excite irritation of the stomach or bowels, use soothing injections or a weak infusion of tobacco or tobacco smoke thrown up the rectum.

My practice, (and I am proud to say it has been successful), after blood letting to the extent necessary to make an impression is to give a combination of calomel and opium; calomel one scruple, opium one drachm, to be given every three hours or as often as the case may require. The opium allays pain and relaxes spasm, calomel arrests inflammatory action and promotes perspiration. I give alternately with the combination

one drachm of turpentine in mucilage; it acts as an alterative, by rousing up the secretions, causing the secretory organs to throw off all impurities. When the inflammation is checked by the use of the above remedies, and not before, the bowels may be cleaned out by giving a mild purge, assist the operation by warm water injections.

By watching the course and progress of this disease, unpromising changes may take place; it may be necessary to support the animal by administering wine, gruel, etc. We must combat the obvious tendency to death through debility; we must not allow the diminution of vital forces, or debility of the whole economy. The treatment of this serious disease requires prompt and efficient measures, the veterinary surgeon must be on the alert, not to allow the chemical action to over-power the vital one. There is no occassion for it while remedies are within reach and applied in proper doses and at the proper time. T. WEBB, V. S.

Zanesville, O.

Care of Hens in Winter.

Keep the hens in a *warm*, clean place, where they can have access to the sun whenever it shines. Feed them regularly with a variety of food, such as corn, which may always be before them; barley, wheat, boiled potatoes, mashed and mixed with cob meal—that is corn and cob ground together; and give them access to plenty of gravel, old plaster, or broken oyster shells. The barley and wheat may be fed to them occasionally, if convenient. Add to these plenty of clear water, and pork or beef scraps, or bits of fresh meat, two or three times each week, and you will not fail to find your fowls profitable.

Benzole as a Substitute for Turpentine.—As turpentine has become scarce and high in price, owing to the supplies from North Carolina being cut off, the naphthaline oil obtained in the distillation of the petroleum of the oil wells in Pennsylvania, has been tried as a substitute in painting and found to answer well. It is now used in place of turpentine in the car works at Pittsburgh, Penn. This is a new application in the arts, and a wider field has been opened for the sale of coal oil products.—*Scientific American.*

Horticultural.

For the Ohio Cultivator.

Grape Culture—Which System is Right?

Interest in grape culture must extend as new early ripening sorts are discovered.—Already by the early ripening of such kinds as Delaware, Diana, Creveling, Lenoir, Concord, and others, the possibility of wine making is extended to every part of the Middle States, and perhaps to most of the New England States. It is therefore not only an interesting but an important practical question as to which is correct of two very opposite systems of grape culture, represented on the one side by Reemelin in his "Vine Dresser's Manual," an admirable treatise if correct in principle, and on the other hand by "Bright on Grape Culture."

Let us take up this matter in the spirit of inquiry, and compare these systems.—The subject is naturally divided into the preparation of the soil and planting; and into pruning. Let us examine the opinion of these authors on these subjects in order, and first as to preparing the soil.

Reemelin on page 19 of his Manual, says: "This matter embraces the foundation of the whole subject of vine culture, and herein every vineyard yet planted in America is defective. Labor is so extremely high here as to make it seem to us almost impossible to start a vineyard as it should be. Our very best vineyards are spaded up two feet, while in many parts of Europe they spade up the ground to the depth of three, four, and even five feet.—

We never prepare the ground itself during the preceding year, while in Europe it is sown down to clover, for a few years previous, and well covered with good coatings of gypsum and manure. We trust to the virgin richness of our soil, and in our confidence are apt to forget that spading up the ground for several feet is done for other reasons besides mere fertilizing: and among these for us especially must be a sinking below the subsoil, the present surface or upper soil, which being full of decomposed vegetable matter is the hot bed of all manner of insects. The spading up and turning of the surface soil beneath its present subsoil is of the greatest importance, because thereby the "Foot Roots" may penetrate downwardly and thus give to the whole grape vine not only its vigor but also its great safeguard against too sudden atmospheric changes or long continued droughts."

The writer proceeds with details for preparing the ground, and then says: Let the reader bear in mind, as the *sine qua non* of a good vineyard, that it is not a mixture of the surface with the subsoil that is wanted, but that the subsoil cover, for twelve inches at least, and twenty or thirty, if possible, the original surface soil, and the deeper this is done, always in reason, the better.—It is better, in whatever light we view it, to have a small good vineyard, than a large poor one. * * *

There are other methods of preparing the ground. One is to make large holes, throwing the surface soil underneath, and planting the vines therein.

Deep ploughing and subsoiling is also frequently adopted. *I have tried all these methods.* The first vineyard I set out by merely digging holes, another by ploughing some sixteen inches deep with a large plough drawn by four yoke of oxen, and followed with a subsoil plough drawn by a pair of horses; and another by trenching as above suggested, thirty inches deep. As to results, I can only say that the first planted vineyard is now being dug up, because it was always liable to every disease which happened to prevail in the season, having hardly yielded a fair compensation for the labor expended. The subsoiled vineyard does better, but I have no hopes of its lasting longer than twenty years, while a well trenched vineyard to the depth of thirty-six inches, with such virgin soil as we have in America, should, and doubtless would last—*if otherwise properly managed*—eighty to one hundred years. I shall hereafter trench any vineyards I may plant at least thirty-six inches, and recommend the same course to all others. * * And further on he gives the reason as follows:

This is to get the surface soil beneath the subsoil so as to afford from the very start of the vine, to the "roots" at the "foot" of the vine, an easy, healthy and steady downward growth. They are the life of the vine, and their continual health is most important. If they are but thrifty, then we need not fear but what the "side" and "surface roots" will always grow and prosper in due time and in proper manner.—From the above extract, it is very clear that Reemelin believes the true culture to be such as will enable the "foot roots," as he calls them, to flourish and extend, as vital to the growth of the vine.

This also appears from other parts of his treatise. Thus on page 10, in describing the various parts of the vine, he says: No. 2 is the "foot" (truss) or lowest parts of the stem, out of which grow, in an obliquely downward direction, those important roots called "foot roots," which, if they spread and grow well, are the chief basis of the whole vine, and without which it cannot be truly healthy."

And so in regard to planting, he prefers cuttings as "they remain in the same spot where they are first planted, and these at once permanently form their roots. These first virgin roots can never again be supplied by any second growth." Also he says: "each cutting should not be less than twenty, nor more than twenty four inches long." This is in order that the foot roots may be deep in the earth. He also recommends the pruning of the surface roots,

(page 43) in order to more fully develop the "foot roots."

Thus we have the precept and practice of Reemelin, an able, intelligent vine grower, who testifies and teaches not only his own but the general practice of the Western German vine-growers.

Directly opposite, is the teaching of Bright, in his "Grape Culture." He starts by the bold and heretofore unheard of statement that "the German method, as practiced at Cincinnati, it is admitted, is not well adapted to the production of perfect table grapes," and then proposes to present what he calls "Our system of culture, which, if not the best that can be devised, is, we believe, far superior to any system at present in use in the United States."

Let us then first see what his preparation of the soil is, as compared with that above described.

On page 33, he says: "The thorough preparation of the soil for the grape border or the vineyard by ploughing, harrowing, rolling, spading, raking, etc., is probably of more consequence than even that of manuring, and by thorough preparation, we mean more than the reader, unless he is a skillful cultivator, has any idea of. We mean twelve ploughings and harrowings instead of two. We mean one fall ploughing left rough for winter freezing. We mean breaking up of all lumps of earth with the spade, the most perfect and minute division of the soil that is possible, so that it shall be left at last as light as bolted flour. It is in such a soil as this that the grape vine delights—a soil that has been worked over and over, in a partially dry state a dozen times at least, and allowed to sink into a beautiful consistency by its own gravity, without any pressing or treading. We are quite of the opinion that a good old pasture soil, where no trees, grain or vines have grown for twenty years, is the best of all soils for the grape, and that it cannot be improved for the growth of the vine for a year or two by any sort of manuring whatever."

This is the positive side of his system. On page 75, we have what he considers improper preparation. He there says: "In our opinion, deep borders and deep planting constitute two of the greatest errors now existing in grape culture. We think no border should be made more than two feet deep, and no vineyard soil should be made rich to a greater depth *than eighteen inches*, or trenched for any other purpose than to render it open and porous. No vine should be planted more *than four to eight inches deep*, and instead of making any effort to induce the roots to go down deeper than that, every effort should be made to keep them within four inches of the surface, and *as soon as the roots are found to penetrate to the depth of three feet, we would advise the vine to be renewed by layers.*

We will guarantee that if a trial be made near Cincinnati, where the grape rot prevails so badly, by planting the Catawba grape on the surface of a rock, in four inches of soil, and well mulched winter and summer, a good crop of grapes will be obtained, and that the rot will never be seen on a vine so planted—nor upon any other vine planted shallow in a porous soil, properly mulched." The writer then criticises Reemelins' views, and maintains that his own are right; and on pages 76 amd 77 describes a deterioration of vines which will take place if planted too deep, and which he says is the history of deep borders and of deep planting in vineries around Philadelphia.

In strict accordance with his system of the preparation of the soil, he says, "We will only say that in planting cuttings we prefer slips of only two joints or eyes, instead of cuttings four or five joints long. We set the short cutting with only one bud below the surface of the ground, which makes a plant with a short root, whereas a cutting four or five joints long, plunged a foot or more deep into the soil, forms its "foot roots" as they are styled, too far below the best part of the soil, and never will form so good a vine as if cut shorter and rooted entirely within four inches of the surface.

Here, then, on the theory of planting, is a distinct issue. Reemelin, representing the German and western vine growers, says the

bed should be deep and the "foot-roots" encouraged, and the surface roots discouraged; and in that way one will have a good vineyard which if deep enough, will last eighty to a hundred years. Bright says "don't let your vine roots get down over four or eight inches from the surface; if you do the vines will gradually deteriorate, till the eighth and ninth years, (when the vines, if properly managed ought to be in the greatest perfection,) and then, as we often see in deep borders, they nearly die out, and become entirely useless."

Reemelin says he dug up and threw away his shallow planted vines, because they were subject to "every disease which happened to prevail in the season." Bright says, he "will guarantee the Cincinnatians against rot, if they will plant the Catawba grape on the surface of a rock, in four inches of soil, and well mulched winter and summer."

Which system is right? that is the question. We are of the opinion that Reemelin is right.

First, because his is in accordance with the European system generally. Secondly, because he assures us that his own vines planted as Bright recommends, failed in a few years. Thirdly, the deep culture is practiced by practical vintners, while the other is recommended by a skilful gardener. Fourthly, because, by the system by him described, the roots of the vine penetrate the whole soil, and can better endure the changes of our changeable climate. Fifthly, because the Bright system requires constant surface manuring of a special kind, and much more labor and care in covering in winter and summer, the roots brought to the surface, than any large vineyard grower could afford to give it.

Sixthly, because the system of preparing the ground and planting by him advocated, is connected with his system of pruning, which we propose now to discuss.

The other difference between the Western vinegrowers and Mr. Bright, is in the method of pruning their vines. Mr. Bright claims to have made a great discovery in what he calls his "dwarf and renewal system," and challenges comparison with every other. He describes it as follows, page 35:

"Take good strong two year old plants, set in rows six or eight feet apart, and two feet apart in the rows, etc. When the vine breaks, select the strongest of two eyes, giving preference to the one nearest the ground, and remove the other bud, leading up only one cane, etc. As soon as the leaves fall, cut back every other cane within two or three eyes of the ground. Prune the (other) canes intended to be fruited the next year to the top of the trellis, and cut back all laterals to within one inch of the main stem." This is in effect to cut off to two or three buds every other vine, and train the alternate one for fruit by a single stem. The German system is to so train the vine, that on the same vine one branch is left for fruit, and the other cut back for the next year's growth; and as vines get older, more stems are left for fruit, and more spurs for new wood. See Reemelin, from page 55 to 71. The Germans sometimes bow or bend their bearing shoot—"the object of bending the vine into a bow is to equalize the sap to all the buds, as otherwise the sap would flow too much to the top."

Bright says, in criticising the Ohio German system, page 52, as follows: "Now it is a sort of law of Nature that you cannot successfully grow wood and fruit at the same time; or at least it is true that the stimulating manures which best promote a growth of wood or vine, are not favorable to fruit, and those manures which best promote the formation of fruit do not excite an active growth of wood. A heavy crop of fruit always checks the growth of a tree or vine, and in many fruit trees renders them sterile the next year. Hence, we argue that it is not wise to attempt to grow a heavy crop of fruit, and the next year's wood on the same vine, or from the same grape root.

Under our system, we concentrate the whole force of the grape root for one year upon the fruit, and aid this if you please, by special manure directed to that object. The next year we cut down the entire vine,

and give it time to rest and form new wood, stimulating it, if need be, by proper means to accomplish that object. This we think is far the best method."

We mean no disrespect when we say that this reasoning is superficial. In the first place, it is not a law of nature (though the writer calls it a "*sort* of a law of nature") that you cannot successfully grow wood and fruit at the same time, and so the writer thinks, for he qualifies his statement further by saying—"at least it is true," etc. He mixes up vines and trees and manures, and then draws his inference "that his system is the best." Let us analyze a little: In the first place, a vine is not a tree, while some fruit trees require rest after an abundant crop, no grape vine, under ordinary culture does require rest. In the next place, every grape vine does produce wood and fruit at the same time, and with equal freedom; and Mr. Bright's renewal system will not prevent the bearing vine of his system from producing much wood that he would have to prune away the next year, if he wished to get another crop of fruit from it. In the next place, it is queer that manures can be so applied to vines two feet apart, that for one year one will produce wood and the next year fruit; and the next one to it constantly produce just the opposite, and so they alternate from year to year.

This is running grape culture into a degree of nicety that may suit a vinery or border, but is utterly useless in vineyards. And to be candid, it seems to be all got up for the purpose of preparing the reader to fully appreciate "our grape fertilizer," which is very carefully hinted at as containing so many rare qualities, and to be just suited to this new and beautiful system. Upon a candid view of the whole matter, *we* believe in the "Ohio German method." What say you, reader? VERITAS.

Morgan Co. Beets.—Mr. Joseph Sigler laid upon our table last Saturday, two of the largest beets we have seen this year. One of the *Mangel Wurtzel* species, weighed 12 lbs., the other of the *Mammoth Blood* species, weighed 11 lbs. Who can beat that. If there are any we would like to see them.

For the Ohio Cultivator.

The Best Soil for Grape Growing.

To those about to invest capital and labor in the planting and fruiting of grape vines, the question, as to what soil as well as what location promise the best and most satisfactory results, is one of paramount importance. Grapes, it is true, can be grown anywhere that Indian corn will ripen, but the result in many locations and soils, in respect to quality and quantity as compared with the labor are not satisfactory.

The vineyards on Kelley's and other Islands in that section of Lake Erie, are the only vineyards ever visited by the writer, whereon the grapes ripened uniform and thoroughly year after year. At Cincinnati, Southern Illinois, Indiana, and for some one hundred miles south and west of St. Louis there are vineyards, where frequently the grapes ripen evenly, but the location before named is the only one where uniform, size and perfection of maturity has been the rule, not the exception.

In all these places, loamy clay has been the prevailing soil whereon have grown the best fruit, while every vineyard, or spot in a vineyard, having gravelly clay or sandy loam, has exhibited the fruit more or less imperfectly ripened, and the vine of a more slender growth. Loamy clays contain, within a given surface or space, a larger amount of food suited to the wants of the vine, than soils of a less retentive character, and they also retain in solution, the manures that may be from time to time applied, while those of a sandy character permit it to leach away. Again, the grape when it is a gross feeder, requires at the same time, a dry foot, and those who drain best, whether on clay or sand, obtain the best fruit, and the most perfect wood.

On the southern borders of Lake Erie, most of those who have planted vineyards have selected sandy soils, under the impression that by so doing they would, from the warmth of the soil, hasten the period of maturity in the grape, and thus escape the early autumn frosts. They also are, as a rule, erroneously impressed with belief that un-

der-draining on sandy land is not necessary, and therefore a great saving in the first cost of stocking the vineyard.

Having long and carefully watched this matter, I have found that vines of Catawba, Isabella, and Aiken grapes, have all matured their fruit more evenly and uniformly when grown upon well drained clay loams, whether upon the south shore of Lake Erie, or elsewhere, than upon sandy soils. I have also observed that after four to five years bearing, most of the vines on under-drained land whether clay or sand, have been afflicted with some disease, mildew, rot, etc., etc. Without writing an essay to explain all this, which is easily done, it is easy to conclude that wherever large and fine grapes well matured are desired, that a rich, strong clay loam, well under-drained is the best soil, and if location can be selected, one looking to the south and east should be obtained, and level land, protected from from the north and west either by a high board fence or hedge the next best. That next to clay, a dry, gravelly loam should be selected, and that the poorest possible selection for a vineyard, is one of light sand, with a compact, hard yellow sand subsoil.

These conclusions are for our coarse grapes, as the Catawbas, Concord, &c. &c., they being the varieties and character at which vignerons are aiming. But there is one step ahead, and which has got to, and will come, before we shall fairly lay claim to a grape and wine-producing people. It is the growing of a finer character of grape; one that while it will not yield more than one half to two-thirds as much fruit to the acre, will nevertheless make a wine of a far higher and more valuable grade.

To this end the now apparently wortless hills of broken calcareous limestone in Missouri, and a large portion of South Bass, and some other islands in Lake Erie are peculiarly adapted. These lands cannot be cultivated with the plow, and until some one is bold enough to make the experiment of growing upon them a grape adapted to their character, and produce a wine therefrom, they will, as they have heretofore, probably remain barren and worthless; once the experiment is tried and its results arrived at, they will be the most valuable vineyard lands in the United States, and this will be ere the year nineteen hundred shall be chronicled. F. R. E.

Cleveland, Nov. 30, 1861.

For the Ohio Cultivator

Taking Care of Fruit Trees, &c.

Reply to the inquiries of G. W. Belote in *Field Notes*, 14th inst.:

1. A good wash for fruit trees is lye of wood ashes, about as strong as the second run from the leach tub. Or potash, one lb. to two gallons water; or better, sal soda one lb. to one gallon water. Still better, one gallon soft soap to two gallons soft water. Apply with an old broom, rubbing hard.

2. We should prefer to whitewash trees late in autumn.

3. Although our prejudices are against such applications, we are not aware that whitewash has proved harmful, while it is claimed to be useful in destroying insects and their eggs or larva, besides reflecting the sun, and thus protecting the body from its injurious effects in winter.

4. We should not place much dependence upon whitewash as a protection from rabbits; better tie lath or bark around the bodies, or wrap with strips of cotton cloth.

5. Grape vines may be planted with about equal success spring or fall; in either case the work should be done early; if in fall protect with a few inches of dry leaves or litter, or if in spring mulch soon after planting. A. G. H.

Columbus, Dec. 17th, 1861.

Late Strawberries.—Mr. Robert Morrison, of Meigsville Township, laid on our table, last Saturday, a bunch of fine strawberries. They are of the species known as the *Hovey Seedling*, and were grown out in the strawberry garden without any protection from the cold and frosts of winter.—They were full grown, ripe and perfect. Mr. Morrison informed us that a large portion of his garden is now in bloom. To have strawberries grow and ripen in winter in this climate, is a somewhat strange occurrence. Can any of our strawberry growers explain this mystery?—*Morgan Co. Rng.*

Editor's Table.

S. D. HARRIS, . . . EDITOR.

Agriculture and the Government.

It has been fashionable ever since the days of the great Washington, for Presidents and Governors to treat the people to a yearly cookie-lunch of complacent and patronizing compliment, commending to the wise consideration of Legislators an undefinable idea, so to speak, of a something that ought to be done, but as to what or how, both the commendor and commendees seem to be very much in the fog, and never succeed in getting out of it; thinking doubtless like some good praying people who daily repeat words to the effect, that Thy kingdom may come, etc., just as if their duty ended with the voice of the petition.

The above cited commendatory suggestions are sometimes varied by specific items gleaned from some Advisory Board or advisory individual, who may happen to have axes to grind, and think that Government should find stone and a relay of hands to turn for them. So universally has this thing taken one or other of these phases, that we have come to look upon its exhibition in much the same light as we do the salvo of Respectfully Yours, at the end of a letter filled with scarcely masked batteries.

President Lincoln is no exception to the above mentioned examples; but he frankly admits his unpreparedness to suggest details of any matter of progress in our industrial sphere. Of all men called to the Presidential chair since the days of the Farmer of Mt. Vernon, we *did* hope that the man who had mauled rails upon the Sangamon and kept a grocery at New Salem—a man who had grown up (a good way up) among the people, would have some practical idea of this question. Candor compels us to admit that the President has been be-deviled with the war question ever since his inauguration, but the reference by him of details in any projects looking towards agricultural advancement, to such purely politicians as Mr. Seward and Caleb B. Smith, was as unfortunate as their labors in this direction will turn out to be inefficient.

The project for an American representation at the World's Fair, which passed Congress at the extra session, has got so tangled up with the red tape of the Secretaries of State and the Interior, that its object is absolutely defeated, and the best thing to be done, is to bury the carcass before it stinks above ground.

The long mooted question of an Agricultural Department at Washington, is thus disposed of by President Lincoln's late message:

"Agriculture, confessedly the largest interest of the nation, has not a department or a bureau, but a clerkship only assigned to it in the Government. While it is fortunate that this great interest is so independent in its nature as not to have demanded and extorted more from the Government, I respectfully ask Congress to consider whether something more cannot be given voluntarily with general advantage. Annual reports exhibiting the condition of our agriculture, commerce and manufactures, would present a fund of information of great practical value to the country. While I make no suggestion as to details, I venture the opinion that an agricultural and statistical bureau might profitably be organized."

If this is not a very harmless and palatable sop, we misunderstand the uses of language. A cookie with caraway seeds in it, and a few drops of paregoric! If the children of Suckerdom are to be reared on such thin political confectionery, the race of rail-splitters is nearly extinct. "It *is* fortunate that this great interest is so independent in its nature," and it would be still more fortunate, if other and more pretentious interests of the nation were equally so. "Annual Reports" are good things for some uses, but if this suggestion contemplates the infliction of the duplication of the annual farce of the Agricultural Division of the Patent Office, we have only to say in the language of our excellent litany—Good Lord Deliver Us!

The Annual Agricultural Connention will be held in this city commencing on Wednesday the 8th day of January. We hope every county society will be represented by a good agriculturist, that no society will palm upon the convention a mere politician or man of straw, just because the Legislature brings him to the Capital at that time. If there is ever a time when we need faithful friends and good counsellors in the convention and in the State Board, that time is now. Therefore we hope every Delegate will be fully qualified for his duties by the possession of good sense and an intelligent familiarity with the particular demands of our industrial interests at this time.

We want no noisy political declaimers, but sober and patriotic men who have been long enough identified with the agricultural movements of the State to act with a full understanding of the subject. All such men will be doubly welcome at the annual meeting.

A Retrospect of the Year.

Standing between two years we look back upon the one and forward to the other, with busy recollection and curious expectation. Sitting here by the ample look-out of our window, the massive Capitol looms up in the foreground, like a fortress that may well defy the tooth of time, and the unfriendliness of destroying elements. The wide park which surrounds it, lies, in the yellow sunlight, like a lap of beauty. Through those broad avenues and up those marble steps, have been a constant tread of strangers, every day, for more than a year. First came the rush of Legislators and their followers, all excited and charged to the muzzle, with a great mission; every one of them feeling that the safety and salvation of the nation depended upon his individual action. The country must be put in shape for the incoming Rebublican adminstration of Mr. Lincoln. Government offices were to be in the market, and many were the patriotic citizens who desired to fill them. A United States Senator was to be elected, and the political elements were put under screws and stretchers, till the fibres cracked or twanged like tense fiddle strings. That matter settled, then came the mutterings of war and the crude schemes of defence from men who could hardly comprehend the details of a cornstalk regiment for Fourth of July parade. In the midst of this blind leading the blind, came the thunders of Sumter and the call to arms! Then the work began in earnest; every hour in the day,—and many times in the night—came throngs of citizen soldiers, tramping up these avenues to be sworn into the service of the State. Clad in the plain garb of the mechanic, the farmer or the laborer; with un-military looking carpet-bag or bundle, drenched in those April rains, and shivering on uncomfortable beds, they were taking their first lessons in the school of the soldier. How those spoiled boys longed for their mothers' cupboard, and those unsophisticated men pined for wifely attentions,—how they suffered and grumbled and cursed, is written in the history of those days.

The next era was the return of three months men, when the suffering and grumbling and cursing were re-enacted, with the additional garnish of such rough accomplishments as had been learned in camp. Under our window we saw a giant man, with muscles like a Norman horse,—who had gone in the van with the axemen at Bull Run,—now mad with rum, dragged down by a dozen stout men whose united strength could scarce control him, and pounded to a gore of blood, to prevent him from demolishing a drinking saloon where he had been offended.

Next came the mustering in for the war, when the battalions poured into the Capital and filed up to the State house, to be sent into camp. This lasted till into the autumn, since which time the scene has changed, and now these promenades are trod by genteel men in officers' uniform, and genteel civilians, seeking rank in the service. This has been the every-day picture from our window till now. Next week will bring us the avalanche of Legislators and office hunters for the new State administration.

Of the progress of agricultural affairs in the country, we have made notes from week to week during the season. Our garners are full of staple products, the grazing fields are stocked with excellent cattle, the feeding grounds are thronged with fat hogs, prices are much better for the farmer than for any other class of citizens, except knavish army merchants, gold has been scattered with a lavish hand, our home currency is good as gold, and we go into the winter with a rising market.

Beyond this no human eye can look with any intelligent solution of the great question before us. Thus far, it must be confessed, our armies have not achieved anything like the success which their vast magnitude and armament seemed to justify us to expect: but we will not criticise hastily; winter has overtaken them, and unless they make their way to a warmer field, little more campaigning can be done till next spring.

Sugar Growers' Convention. — We are glad to notice that quite an interest is awakened in behalf of the Sugar Growers' Convention to meet in this city on the 7th of January, the day before the annual agricultural meeting. Messrs. J. L. Gill & Son have arranged for the meeting in a commodious room in their large warehouse on High street, where all visitors will be welcomed, and besides the direct object of the meeting, can take a look through the largest assortment of all manner of plows and other implements, to be found in any house in Ohio.

Do You Want to Swap?—Any subscriber to the *Ohio Cultivator* for 1863, or any person receiving it as a premium from any fair or otherwise, can have *Field Notes* for 1863 instead of the *Cultivator*, by remitting us one dollar and informing us of their post-office address.

Great talkers, little doers.

Mrs. Gage's Lectures.

With the return of the long evenings and comparative leisure of Winter, people will seek instruction and amusement in social circles. Next to the press, the church and lecture room are the great agencies of social progress, and all three working together in harmony and in the right direction, are mighty for the accomplishment of right ends.

It is well known to the public, that our worthy associate, Mrs. Gage, has a peculiar gift in the way of social lectures, by which her auditors are always both entertained and instructed. Her object in this is to employ her talent to the most useful purpose, and that she may receive a reasonable compensation for her labors. Believing as she does, that it is a woman's right to earn her living, she is content with moderate wages, and though, according to the united testimony of many hearers, she gives as good as the best, yet she does not set herself up at the fancy prices of certain popular pretenders, who exact large sums of money for small return of stale talk.

Mrs. Gage speaks right from the heart and soul, with a readiness and command of language possessed by few of our best orators. Her favorite subjects for the present are, "The Needs of the Times." "Philosophy of Home Life," and where desirable is always prepared to deliver Lectures upon what she saw during her travels in the West Indies. These last we have never been privileged to listen to, but gentlemen who have heard them and in whose judgment we place the highest confidence, assure us that they present the most vivid and life-like picture of the countries and the people of that tropical region.

In her excursions among the people, Mrs. Gage desires to be received as a friend, without form or ceremony, that she may be put upon the most direct road to the hearts of the people whose friendly consideration she seeks to secure. Her usual practice is to secure a suitable room, such as a hall, church, school-room, or the like, pay the necessary expenses of the same where expenses must be incurred, and take up an admission fee of ten cents at the door, for her compensation. This is surely a very moderate return for the rich bill of fare with which she treats her audience. She is now making up her programme for the season, intending to spend the winter among the people in giving lectures and gathering information for her weekly contributions to *Field Notes*, which as she always travels with her eyes open, will be a rare treat to our readers. Persons desirous of securing a visit from Mrs. Gage for this purpose, are requested to correspond with her on this subject: her post office address will be Columbus, O., and letters received during her absence will receive early attention.

Grubs in Grass Fields.

A farmer and grazier of this county, who has facilities for extensive observation, informs us that the white grub of the May beetle is doing great damage in the grass fields, through a large extent of country in Central Ohio. The turf is literally ruined by these subterranean explorers, and the farmers are anxious to know how they may be destroyed. Some farmers turn hogs upon the fields to root them out. Where this is not practicable, it is proposed to harrow the fields thoroughly during any open spells in early winter, thus exposing the grubs to the freezing and thawing process. It is well known that no freezing will injure the grub when he is allowed to thaw out underground, thus proving the tenableness of Mr. Ferriss' suggestions last spring concerning the destruction of fruits, that the danger is in the thawing. We suppose a liberal application of quick lime or fresh wood ashes, or perhaps salt, in connection with the harrowing, would prove serviceable. We hope farmers will solve this question by thorough experiments, and report the results for publication.

For the Ohio Cultivator.

Grub Worms in Grass Fields.

I see a correspondent expresses anxiety about the drepredations of the grub-worm the coming season. They have been bad the past season, and your correspondent fears they will be worse next season. I think his fears are unfounded. They have done great injury in this section of country to the meadows and pastures, and the effects will be seen next summer, but I know no reason to apprehend a continuance of their depredations. In the summer of 1836 the upland meadows and pastures of portion of Muskingum county were entirely destroyed by them; and the next season they entirely disappeared.

This grub is a voracious eater, but a slow traveler, and when a piece of grass is eaten up by them, the whole army which has done the mischeif, perishes on the field for want of food. I have seen their dead carcasses by the thousand on rolling up the dead sod.

I think if the proper course is pursued

with meadows, the damage they do is not very hard to repair. The ground should be sown in grass seed, and thoroughly harrowed. It will be found to be in excellent order for seeding where the grub has done its work thoroughly. C. S. HAMILTON.

Union Co. Dec. 1861.

The Horseman.

Spanish Jackies.

The mustang, or Spanish jackie is a miserable substitute for a horse. If it were not that traveling on foot is considered eminently disgraceful in those countries where they abound, as evidencing the lowest depths of poverty, I would much prefer that mode of progression (especially when speed and comfort were to be consulted,) to a seat upon the back of one of those white-eyed, thin-shanked, Roman-nosed, pot-bellied mustang ponies. They are a diminutive creature of that noble quadruped, the horse, and yet, at the same time, comprise more of the vicious qualities in one of their slab-sided, shaggy-haired, calico-painted bodies, than could be found among a half-dozen thoroughbred American steeds. They are the most complete "take in" I know, and for the reason that, with most of the "points" and outside semblance of the horse, they possess the ferocity and deceitfulness of the tiger, (it is that disposition showing itself externally, that causes so many of them to be painted or spotted,) the obstinacy of the mule, and the vindictiveness of an enraged rattlesnake. Many of the advocates of "Spanish stock" will tell you that their vicious disposition and propensities are solely owing to the harsh and cruel manner in which they are usually broken into service; that if reared and handled gently, they eventually become as mild and tractable as any sucking dove. Don't believe one word of it! You might as well attempt by raising and handling gently a thoroughbred "Berkshire," to break him of his favorite pastime of "rooting," as, by so doing, to break a mustang of "pitching," and other pleasing little traits peculiar to the tribe. Pitching is inherent in the nature of the brutes, and will show itself sooner or later, under any "course of treatment!"

The Mexicans understand their character and the mode of managing them much better than we. They mount them with a heavy quirt, (a kind of short, heavy whip made of rawhide,) a rank pair of spurs, (each rowel of which looks like a small cart-wheel, *minus* the tire,) and thus taking the "initiative." they so astonish and cow the brutes at the very outset, that they are enabled to ride them the balance of the day in comparative safety and comfort,—'Tis "Greek meet Greek," only one of the Greeks has the advantage of the quirt, spurs and cruel bit in use among the Mexicans, which soon brings the contest to an end, generally, though not always in favor of the rider. Many of the advocates of "Spanish stock" will also tell you that they are hardier, can live on less, and do more service than the most thoroughbred American horse. It is all a mistake. I admit that upon grass alone, they would probably do more service than one of our corn-fed, well-groomed American horses placed upon the same Nebuchadnezzer diet; but give the generous, high-mettled American steed, a reasonable time to accustom himself to such provender, and he will perform the work of half-a-dozen Spanish ponies. Thoroughbreds have, under all circumstances, more speed and endurance than scrubs.

There is one peculiarity of the Spanish horse which every one that has ever had anything to do with them must have noticed. They never, by any accident, *scare* at an object that would almost be certain to frighten an American horse, and for this reason one never knows when to be on his guard against their "shying and dodging." For instance, they will pass by a wind-mill, with its sails whirling and flapping in the breeze, without the slightest show of trepidation; they will encounter a travelling "menagerie" on the road, and scarcely prick up their ears at the hump-back camel; and even the elephant, as he rolls along in his fancy-colored covering, scarcely causes them a look of surprise, and they will trot by the most huge, blackened, and contorted stump with supreme indifference and contempt. But when (provided you are ignorant of the nature of these brutes) you have almost come to the conclusion that there is nothing in the world that will frighten them; you perhaps catch a glimpse of a pig or some other contemptible little animal, and the next moment (that is, if you are able to do so,) you are picking yourself up some twenty feet distant, *minus* your hat and coat tail, and just in time to catch another glimpse of somebody's pony rapidly disappearing round an angle of the road! And what renders the creatures more despicable than

everything else, is the duplicity and cunning with which they frequently, for a long time, manage to conceal their vicious propensities, for no other purpose, I verily believe, but to put you off your guard, so that whenever they do make an attempt upon your life and limbs, they may have you at every advantage.

I once owned a Spanish horse that I actually believed was an exception to the general run. I had ridden him for months without his ever having exhibited upon a single occasion, any of those pleasing little traits of character (such as pitching etc.,) so peculiar to the race. Several years ago, while on my way home, I stopped for the night at A——, a pleasant enough little village, but rather dull for strangers—and for lack of some more reputable mode of killing time, I went into a small game of "poker," with a select *coterie* in a private apartment at the hotel, and "came out" again with twenty-five cents in my pocket, which I immediately invested in a couple of drinks of strychnine diluted with the juice of tobacco. Here was a *go*, or rather a *no go*, for my tavern bill was unpaid—I was a hundred miles from home—and didn't know a soul in the place. I concluded that my only chance of getting out of the scrape was to sell my horse and equipments for what they might bring, and take passage in the stage the rest of the way home. I went forth the next morning somewhat reluctantly for this purpose (for really I had formed a sort of attachment for the brute,) not because of any good or commendable qualities he possessed, but simply because he had never evinced any that were decidedly vicious; and after canvassing around sometime among the idlers on the square for a purchaser, I at length forgathered with an individual who professed an inclination to buy, provided I would guarantee that the animal never "pitched." "Pitch," said I,walking round the horse .affectionately smoothing his mane, and confidingly pulling his tail (I tremble now when I think of the risk I ran!) "pitch sir! if this horse ever pitches I'll make you a present of him!

Thus assured, the man mounted him—but whether the cunning beast comprehended enough English to understand that he had been sold, and regretting that he had thus lost all chance of breaking my neck, had determined to lose no time in making the attempt upon his next owner — or whether the propensity to pitching, which often lies dormant in them, just as the virus of an epidemic does in the human system, only to be exhibited with tenfold violence for the delay in its development—I know not—but hardly had the rider seated himself in the saddle, when the rascally brute bowed his neck, humped his back, and began a series of pitchings that for vigor and velocity I have seldom seen equalled. The rider clung frantically to his seat for some time, with the tenacity of a monkey, but at length one pitch, accompanied with a sort of side wipe motion, brought him to the ground, fortunately for his neck, but not for his Sunday coat, in a puddle of mud and water. I ran to his assistance and as soon as he could recover breath, and scrape away a casing of mud, with which his lips were hermetically sealed he exclaimed:

"That horse don't pitch, eh! well all I've got to say is, *ef* I wanted a pitching horse, I'd take the *anermal* at once, but as I don't, I ruther conclude I wont invest in him jest at present."

I hadn't a word to say, but walked off sorrowful and crest-fallen, and thoroughly convinced of the utter deceitfulness and depravity of all Spanish stock.

No, my friends, "put your faith in princes;" believe your sweetheart when she vows eternal constancy, or the predictions of the almanac with regard to the weather, or that "John Bull's compound syrup of sarsaparilla" will cure all the ills that flesh is heir to, and you *may* not be deceived; but never believe under any circumstances, that a Spanish horse won't pitch, and never buy one if you have any regard for the vertbrae of your own neck, unless indeed you should have designs upon those of your wife, and would like to rid yourself of the matrimonial noose without the eclat and scandal of a divorce. In that event, buy a Spanish horse by all means, and persuade your better half that her health requires exercise on horseback in the open air—and never mind the price —for I'll warrant you that he does the job for you sooner or later, with ease and elegance.

Sugar Cane and Sugar Beet. — The French papers describe in glowing terms, a discovery in sugar making lately brought before the Parisians by M. Rosseau. The saccharine juice, when first extracted from plants is colorless, but it has such an affinity for oxygen after leaving the cells of the plant that it very soon becomes dark in color and changed in character by exposure to

the atmosphere. To prevent this chemical action—principally due to the albumine of the juice—the sulphite of lime, sulphur and various substances have been used.—Rosseau's process consists in removing the albumine in the juice by mixing a very small quantity of sulphite of lime with the juice immediately when extracted, heating it up to 212° in a boiler, when the albumine rises to the surface and is skimmed off.—About eight per cent of hydrated protoxode of iron is now stirred in, and this, it is said, neutralizes all the changeable part of the juice and leaves it colorless. The juice is now simply evaporated to obtain beautiful crystals, without the usual tedious and expensive operations of filtration through animal charcoal, etc.

Nails, Nuts, Screws and Bolts.

One of the component parts of a good farmer is mechanical ingenuity. Some lose half a day's valuable time, for want of knowing how to repair a breakage, which an ingenious person could do in five minutes. A team and two or three men are sometimes stopped a whole day, at a critical season, for want of a little mechanical skill.

It is well for every farmer to have at hand the facilities for repairing. In addition to the more common tools, he should keep a supply of nails of different sizes, screws, bolts and nuts. Common cut-nails are too brittle for repairing implements, or for other similar purposes. Buy only the very best and anneal them, and they will answer all the ordinary purposes of the best wrought nails. To anneal them, all that is necessary is to heat them red hot in a common fire, and cool gradually. Let them cool, for instance, by remaining in the fire while it burns down and goes out. One such nail, well clinched, will be worth a dozen unannealed.

Nothing is more common than for a farmer to visit the blacksmith shop to get a broken or lost bolt or rivet inserted, and often a single nut on a bolt. This must be paid for, and much time is lost. By providing a supply of bolts, nuts and rivets, much time and trouble may be saved.—They may be purchased wholesale at a low rate.

These should all be kept in shallow boxes, with compartments made for the purpose, furnished with a bow-handle for convenience in carrying them. One box with half a dozen divisions, may be appropriated to nails of different sizes; and another, with as many compartments, to screws, bolts, rivets, &c.

Every farmer should keep on hand a supply of copper wire, and small pieces of sheet copper or copper straps. Copper wire is better than annealed iron wire; it is almost as flexible as twine, and may be bent and twisted as desired, and it will not rust.—Copper straps nailed across or around a fracture or split in any wooden article, will strengthen it in a thorough manner.—*Rural Affairs.*

Feeding Oats to Horses.

It is well known, but not so generally practiced as it ought to be, that oats or other grain given to horses are more readily digested, and consequently more nutritious, when supplied in a bruised or reduced state; and we have now improved a very convenient machine for effecting this very desirable purpose. The health and durability of the horse greatly depend on the mode of feeding and treatment during his hours of rest, as well as on the quality of his food, and the amount of labor which he is required to perform. The following abridged observations of a practical French writer in the *Journal d'Agriculture Pratique*, are deserving the attention of all who have horses under their care:

The same quantity of oats given to a horse produces different effects according to the time they are administered. I have made the experiments on my own horses, and have always observed there is in the dung a quantity of matter not digested, when I purposely gave them water immediately after a feed of oats. There is decidedly, then, a great advantage in giving horses water before grain is fed to them. There is another bad practice, I observe, that of giving grain and hay on their return to the stable immediately after hard work. Being very hungry, they devour much food eagerly, and do not properly masticate it; the consequence is that it is not so well digested, and not nearly so nutritious. When a horse returns from work, perspiring and out of breath, it should be allowed to rest for a time, then given a little hay; half an hour afterwards, water, and then oats or other grain. By this plan water may be given without risk of cold, as the oats act as a stimulant.—*Canadian Agriculturist.*

Those who are always peering into the affairs of their neighbors constitute a very mean sort of peerage.

Field Correspondence.

For the Ohio Cultivator.

A Rehearsal of Familiar Topics.

Ottawa County.—As Aunt Fanny did not quite finish Ottawa County, we commence where she left off: The land is well adapted to wheat, much of it needs underdraining, however; which can easily be done with hickory bark, which is plenty, and when it is peeled and laid in the sun to curl, makes the best kind of tile. I believe it would last a hundred years. There is too much other business, to attract that attention to farming which insures success. The water lime works, the plaster bed, the ship timber business, the stave and hoop pole business, the fishing (most of the white fish caught in Lake Erie are caught on the Ottawa shores) all combine to deter from developing the agricultural resources.

Grape Culture.—There is quite a tract near Marblehead, which has always been considered worthless; some places an inch or so of soil, and others the bare limestone. Some Germans have been trenching up the shelly, rotten lime stone, to the depth of ten or twelve inches, and the width of fifteen or twenty inches, and planting grapes therein; scraping in what soil they can get around the roots, then mulching with the broken, rotten lime stone aforesaid; it is said that the vines promise to do well. This might be set down to prove Bright's theory of grape culture to be correct. We might here venture to suggest, that we cannot approve of root trimming to make the roots strike deep, nor of much top shortening; we are inclined to think there is too much tinkering with vines, as well as other fruit-; too much doctoring of the roots, too much doctoring of the tops, too much theory, too much practice, and considerable too much science; in fact horticulture has got to be a tremendous science, where almost every doctor disagrees.

As a just comparison, the old school physicians cupped, calomeled, bled, blistered and played smash generally, and if the patient survived, it was science that did it. Now all agree that very little medical aid is necessary, merely to assist nature in throwing off the disease. To-day, notwithstanding grapes rot and mildew, and fruit trees blight, &c., we practice the same routine that fruit growers have practiced for centuries, without apparently stopping to think whether those practices were founded in common sense or not. It seems as though too much energy is directed to the propagation of new varieties for for a *big price*, and too little in preserving the health and vigor of those choice varieties which we already have.

In most localities we cannot approve of the low training of grape vines usually practiced, for does not nature train her vines over the tree-tops; can we not heed the lesson? On the islands along the lake shore and elevated situations where there is plenty of air to keep the fruit dry and cool, low training will possibly answer; but in all other localities the vines should be trained high to avoid rot and mildew and to ensure perfect ripening.

Again, nature covers the ground of the forest with a fine, dark mold, leaves and old rotten logs, to protect her trees from diseases and death; but when the subsoil is turned to the top, this protection is gone forever; then comes the diseases of the horticulral category; hence the necessity of mulching to supply the place of this protection of nature. We would recommend sowing buckwheat among apple orchards, peach orchards and vineyards, year after year, and let it rot upon the ground; there is nothing like this to make the trees flourish. The grain can be turned to profit by keeping fowls enough to eat it up; they will live upon it all the fall, winter and spring, provided there is enough for them; then they will destroy worms and insects injurious to the trees and fruits. After the first year the buckwheat can be worked in with one horse and a shovel plow or cultivator, without at all injuring the roots.

Beet Sugar.—There are some features of the beet sugar spoken of by Prof. Mor, we like; one is, it would not not have to

be worked up in the hurrying season of the year; another is the pulp and leaves would be capital to feed stock upon through the winter; make up enough so that the pulp would last a week or ten days, then make again.

Sugar Cane.—Last year some of the heads of our sugar cane were pulled out or broken off about the time they were fully headed out; we noticed that the stalks were much sweeter and riper than the others; also heavier and more solid. We may be mistaken, but we think the ripening of the cane can be hastened in this way, (corn stalks will ripen three weeks earlier when deprived of their ears,) and that sugar can be made without difficulty, and from one third to one half more sugar or syrup to the same cane, if the substance is not drawn away from the stalk to ripen the seed.—Corn stalks will make sugar and syrup if the seed or ear is not suffered to ripen, but after the ear has ripened we apprehend sugar making would be a lean business.—We shall experiment with the cane next year if nothing happens. C. W. C.

For the Ohio Cultivator.

Switzerland County Indiana,

This is a great country. Along the Ohio River it is quite hilly and rocky, but the soil is well adapted to grain growing. Some misers complain of having to pay taxes for both sides of their land, however both sides are tenable where it stands on edge. The north part of this country is level and well adapted to hay growing. Some farmers raise more than one hundred tons of hay each year. They use the Mormon Hay Press.

There is more wheat sowed this year than common. It has a tolerably favorable appearance. The fly is troubling some wheat. Potatoes are rather scarce, corn is middling good. Many have raised sorghum cane. People have come to the firm conclusion that it will pay. Mr. Stow has a cast mill, and evaporator with timber sides and sheet iron bottoms. This is much better and faster than in kettles. They have made 200 gallons.

This country is under a high state of cultivation. Land sells for $100 per acre. There are large quantities of onions grown here, tended chiefly by women. If it were not for what the women do, some people would go by the board, for while the men are discouraged and loaf around and read news-papers, and talk war, the women—faithful to their trust—go right ahead with their work, such as making gardens, canning fruit, preparing garments for winter etc.

The health of the people is good; stock of all kinds are thriving quite well.

Itinerant.

Switzerland Co. Ind. Dec. 1861.

The Garden.

For the Ohio Cultivator.

Notes and Observations.

Cuttings of plants, shrubs or trees, if taken from the lower or side branches, are more certain to form roots and become of themselves plants, shrubs or trees, than when taken from the top or terminal upright shoots. Fruit shrubs grown from such side or lateral branches, will produce fruit much sooner than those grown from the more upright shoots, but the vigor of the plant will be in accordance; in other words, the expenditure of sap in the one will nourish the fruit, while in the other it will create wood.

Choice Apples.—Among the very *best* apples for the table, let me name "*Garden Royal.*" It is of medium size, almost always fair, rich, sprightly and tender; in eating from middle of September to say 1st November. Tree grows almost as upright as the Black Tartarian cherry.

Perennial Plants.—The collection of Phlox, Peonies, Campanulas, Delphinums, etc., that are now grown, make it very easy to have a beautiful flower garden without the care and disappointment often attendant upon the growing of annual flowers. An open time in mid-winter is often one of the very best for dividing and replanting all such roots. After re-setting, scatter over

them a little coarse stable manure, to prevent frost heaving, and when Spring opens, rake off, and the plants will start up as readily as if they had never been moved.

DODECATHEON, or American Cowslip.—This is one of the prettiest early flowers that we know; and yet although a native, it is rare to find it in gardens.

DICTAMNUS.—One curiosity of the Fraxinella, aside from its beauty as a flowering plant, is its exhalation of a gas, that by applying a candle or lighted match to its flower in the evening, causes it to present the appearance as of being on fire.

GRAPES ON KELLY'S ISLAND.—The first cuttings of grapes planted on Kelley's Island was in 1842. Datus Kelley, Esq., obtained cuttings of the *Aiken* grape from Priest Aiken at Cleveland, of the *Isabella* from Judge Wood, and of the *Alexander* from Heman Ely, Esq., of Elyria, carried them to the Island and planted them without reference to name. But one of them, viz: the *Aiken* is now much grown there, the Catawba, an introduction of a later date, having proved superior. This year the product of grapes on the Island was over *three hundred tons*, yielding a cash revenue to the owners of from forty to fifty thousand dollars. If to this be added the sale from cuttings and plants, the receipts of that Island from the grape alone will probably run near *one hundred thousand dollars.* ELLIOTT.

For the Ohio Cultivator.

Winter Protection for Flower Roots, &c.

BEDDING-OUT PLANTS.—If you wish to have fine perennials and annuals next spring, cover your borders well with clean leaves, saw dust, or chips and mould from your wood house. Thus protected, seed that have dropped from verbena, mignonette, balsams and other annuals, will come up early and often give you new varieties. It is painful to walk up the paths in door-yards, and see the bulbs of lilies, hyacinths and tulips, washed out of ground or only covered with a half inch of earth. Do, girls, remember them, and put on their night caps and put them to bed for the winter. Cover them up with something that will give them food, and in the spring they will return you thanks with glowing beauty and fragrance.

ROSES.—Many purchase rose trees, and set them, expecting the first season to bring a profusion of flowers, and their failure to do so is a great disappointment. The nurserymen said they were perpetual bloomers, and would bear the winter in the ground, but the winter cuts them down, and so they cry out against the florist who has deceived them, as they imagine.

The trouble is in themselves; surround your rose trees with a protection against ice and snow, for their thorny stems hold more water than many other plants. Layer them carefully, and cover with straw or corn stalks. If too strong to be bent, put wisps of straw around them and tie them with straw ropes. Then you will have flowers on the old stocks early in spring, and a continuation of bloom through the season; but if suffered to freeze down to the roots, half the season will pass (and sometimes the whole season) before they will be ready for flowers. Girls can do this as well as boys. F. D. G.

Fancy Fruit Growing.

A correspondent of the New York *Journal of Commerce* communicates to that papaper the following particulars of a new system of fruit culture, which was explained at one of the regular conversational and exhibition meetings of the Brooklyn Horticultural Society:

Mr. Alfred Chamberlain, of Newport, R. I., after years of patient investigation, has recently succeeded in perfecting his plan of growing fruits and flowers in small wire baskets filled with moss. He has received a patent from the government for his invention, and this was the first public exhibition of them. In two of the baskets were a miscellaneous collection of plants, such as are usually contained on flower-stands. Here they were growing in one basket, in full flower and vigor, as if each were trying to outshine the rest.

There was a basket filled with strawberry plants in all stages of growth—in flower, partially and fully ripe, of an extra size and

most luscious in appearance, here in the middle of November. What ornament can equal this, with its beautiful green, glossy foliage and the bright red berries, peeping out from their mossy beds, away from the cold and damp of earth.

The next was a grapevine, which had produced a dozen bunches of splendid grapes, showing where they had been on the vine, and that there could be no humbug about it. By this plan every one could truly "sit under his own vine and fig-tree." The next thing was a peach tree which had produced ten large peaches, as fine in color and flavor as any that are grown in the ordinary ways, and was fully set with fruit buds for the next year s crop

But the crowning wonder was a *pineapple*, also grown in the moss baskets, and which almost surpassed belief. Mr. C. stated that he was growing large numbers of them in pots and pits, in the ordinary ways, and none of them were equal to this one. Mr. Fisher Howe stated that he had seen large quantities of them grown in England by the most skillful gardeners, and also in the West Indies, and had never seen any so fine as this. Mr. Chamberlain stated that as he had obtained a patent, he would tell them the ingredients he used, which were moss, bone dust, charcoal and sand, and that the plants were watered with liquid manure about twice a week.

The Orchard.

Rabbits Among Fruit Trees.

Orchardists and Nurserymen are often greatly annoyed and seriously damaged by the depredations of rabbits among their fruit trees and shrubs during the winter. A great variety of remedies have been proposed and tried with various success. In an extensive nursery it is a great undertaking to attach individual protection to every tree; and a trained terrier dog with a watchful oversight of the proprietor is among the most effective means of defence. But in this case the greatest trouble is that the little rascals come in the cold nights when dogs and men hug their warm beds.

For orchards and fruit gardens ample protection can be afforded with little expense for material or time. The cheapest and most readily applied defense that we know of, is to take a common newspaper, or any coarse wrapping paper will do, wrap it around the trunk of the tree, extending from close to the ground, up twenty or thirty inches, and fasten it in place by winding yarn or twine over it and tying securely at the ends. We had in our fruit garden last winter the choicest little dwarf pears, peaches, cherries, apples, and berry bushes protected in this way from a lot of tame rabbits which we suffered to go at large day and night, and not a tooth marred any of them.

Some orchardists profess to have found adequate remedies in various washes applied to the bark of trees; among these are a thick lime white-wash, strongly dosed with tobacco tea; also a smearing of butcher's blood. Any of these remedies applied in time and followed up by careful watching, may answer the desired purpose. No person who has taken pains to procure fruit trees, can afford to let them be spoiled for the lack of a little timely protection.

For the Ohio Cultivator.

Late Frosts and Fruit Culture.

As to Fruit growing, there can be, I think no question but that late spring frosts are the most serious obstacles. Such is my judgment with regard to the larger portion of the United States; and thus it becomes of the first importance to study out the best correctives. Certain favored locations near or surrounded by water, excepted, there is scarcely a fruit orchard or garden but suffers more or less, shall we not say every year.

Of the great champaign prairie of inland districts as well as a larger share of the more rugged and broken portions of our country, late frosts are the bane of the fruit grower, and the man who suggests a practical remedy will be a great public benefactor. It will be said, this is simply impractable, at which we demur; Nature too backs the demurer—for in the gift of the Jannet or Geniton appletree she has given us one key to the puzzle — How to escape late frosts. We doubt not that there may yet be, if no other way, complete sets of late blooming fruits both large and small; either late blooming or ever-blooming, that shall most assuredly beat Jack-frost in his hoary burglaries.

Then there are certain sorts of fruit that bear late frosts when in bloom far better than others; some it is said even putting out a second crop of blossoms immediately after the destruction of the first. We have heard this asserted of the Vandervere pip-

pin and Rome Beauty, but we cannot say how truthfully. Much good can sometimes be done by planting on latest northern exposures, and some assert that trampling down the snow or covering the ground over the roots with straw or coarse manure while the ground is frozen, tends powerfully to retard the opening and premature exposure of the blossom buds.

Is it not a pretty well established fact that in early seasons the fruit bloom or set is much more liable to be cut off, and if so the one great drift of prevention must be to retard the opening of the blossoms, and *what is the best plan?* Who of us looking back twenty-five years and considering American progress in Horticulture, and with the slightest conception of the latent wonders and improvments yet forever in store, but would feel to "thank God and take courage" in so good a cause—could we but have a country to live and follow it in!

Truly, F. K. PHŒNIX.

Bloomington, Ill. Nov. 1861.

For the Ohio Cultivator.

Tribulations of an Amateur.

Have none of those mysterious individuals who grow the beautiful pyramid pear trees we see in the catalogues, who show you bushes filled with enormous goose berries that are not mildewed, who are able continually to furnish boquets of perpetual roses, and whose grape vines are regularly laden with bunches of emeralds duly turning to amethysts, with no burden of mildew and rot—have none of them I ask, ever revealed the nature of the apprenticeship which has given them such cunning? They tell of their successes, and lay down charmingly simple rules for their blind followers to walk in, but I do not find Nature so pliant a dame as she is represented to be. For instance, I have a few pet trees of my own; now it has been a great aim with me to have them grow up as comely and graceful as those enticing ones heretofore hinted at, which adorn our fruit books and catalogues. I have "studied the rule" as our mathematical teacher of the olden time always commanded, and yet the required result is not forthcoming—in fact, "I can't get the answer." Nature will insist on sticking out branches where I don't want them. If I pinch off one—presto!—she sends out two or three more to laugh in my face; and whenever I look for a promise of a branch to add to the symmetry, or preserve the balance of my pet, she obstinately refuses to push out the least little bud.

How ashamed I shall be of my bantlings if any of those knowing ones should venture upon our domain to take a peep at things, and see how I succeed in my new enterprise, and how unfortunate that a tree is something that can't easily be hid.

I am not at all discouraged—no, I am full of hope—and as I look Nature in the face I say, "I shall know you better bye and bye, madam—we shall see." Yet in the meantime can we not have a chapter or two of those "Confessions?" It would do me good to know just how much failure goes to make up one grand success. MELANIE.

South Pass. Union Co. Ill. Dec. 1861.

Raw-hide.—How few persons know the value of raw-hide. It seems almost strange to see them sell all of their "deacon" skins for the small sum of thirty or forty cents. Take a strip of well-tanned raw-hide an inch wide, and a horse can hardly break it by pulling back—two of them he cannot break any way. Cut into narrow strips and shave the hair off with a sharp knife, to use for bag strings; the strings will outlast two sets of bags. Farmers know how perplexing it is to lend bags and have them returned minus strings. It will outlast hoop iron (common) in any shape, and is stronger. It is good to wrap around a broken thill—better than iron. Two sets of raw-hide halters will last a man's life-time—(if he don't live too long.) In some places the Spaniards use raw-hide log-chains to work cattle with, cut into narrow strips and twisted together hawser fashion. It can be tanned so it will be soft and pliable like harness leather.

Men who endeavor to look fierce by cultivating profuse whiskers, must be hair-em-scare-em fellows.

Why is necessity like a great many lawyers? Because it knows no law.

Home Department.

MRS. FRANCES D. GAGE, EDITOR

For the Ohio Cultivator.

A Word to the Girls.

"I believe that during the twenty-six years I have practiced in this city, 20,000 children have been carried to the cemeteries, a sacrifice to the absurd custom of exposing their arms and necks."

So says a distinguished physician of Paris, and may not the same be said in this country, of the same absurd custom? It is sad to see young children die, but it is terrific to see the young and gifted, just budding into womanhood, passing away, burying the hopes and aspirations of eighteen or twenty summers, with all the care and culture bestowed upon them, under the sod. And yet I know that the number of young girls may be counted by thousands, who commit suicide by appearing at parties, balls and festivals, with bare arms and necks, thin shoes and stockings, and late hours.

It really does seem that American women spend time and money without stint, to make themselves as miserable as possible. Here is the thermometer at zero; winds blowing chill as Lapland, but Mrs. Makeshow is to have a party; guests to arrive at half past nine P. M., young ladies in a flutter of excitement all day. New bands, laces, flounces and frills to be arranged for evening, and too often all this accompanied by a consciousness that if a new toilette is made, it must be by working old things into new, not to make them more becoming, or tasteful, but because it is "perfectly ridiculous"—so says Mrs. Brainless, wife of Sir Gripes Brainless,—"to wear the same dress twice in one season, to a party."

So it is worry, worry all day—don't want a bit of dinner, excitement has killed appetite, of course no supper, because Mrs. Make-show always gets up such splendid suppers. And so some delicate girl, who wears a heavy merino or delaine all day, with a pair of knit woolen undersleeves,—(as like as not) and a blanket shawl round her neck and shoulders to keep her from freezing in a warm room, finds herself ready at nine o'clock at night, after twelve hours of labor and excitement, with an empty stomach, an exhausted system, cold feet, and throbbing brain, ready to dress herself in gauze, lace, or silk, with low neck and short sleeves, to take off her high boots and common stockings, and supply their place by kid or satin and thin silk, and to pass from the cosy, warm, home sitting-room, into Mrs. Make-show's splendid double parlors, that have been neither warmed or aired for six months, and are now only a fortieth part of a degree above the freezing point.

Oh! those naked arms, pimpled with goose flesh, and purpled with frozen blood. Oh! for that shivering form, gliding among belles and beaux, the former as senselessly and uncomfortably dressed as themselves; the latter in close knit woolen undershirts, up to the very roots of the hair, a good white shirt over that, a double backed and double-breasted thick satin vest, well wadded on the back and breast, over that; a broad-cloth coat lined and padded over that, at least six thicknesses of thick cotton, flannel, and broad-cloth over the neck and shoulders, and four thicknesses from shoulder to wrist, and not a bit too warm; with woolen hose and calf-skin boots on their feet. Man is the Lord of creation, of course he must keep warm—but "*Angel woman!*" ah me! It is dreadful to think of a battlefield, with its killed and wounded, but if the truth could be known, parties and balls in high life, or even in low, will kill by slow tortures, more women this winter throughout our country, than will fall in the conflict between north and south.

Wont you, wont you, wont you, wont you,
Take my counsel girls,
Wear your high neck'd, long sleeved dresses,
With your smiles and curls?

And boys! if they wont, do take pity on them, and put their poor shivering arms into your coat sleeves—for you will then be more warmly clad than they: in pity don't let them die. F. D. G.

For the Ohio Cultivator

Popular Lectures and Lecturers.

A lecturer going from town to town, and from neighborhood to neighborhood, has a grand opportunity for observation, and the study of human nature. In getting up a programme for instance, you may write to twenty different places, to the persons who have been represented as active, influential, and leading citizens, and you will get twenty different replies, each in the style of the individual addressed, yet all (with an occasional exception) agreeing as to one particular thing. The following extract from one, might answer for the twenty, only re-arranging the syllables, and sounding the differing changes on the same idea:

"I do not dare to give you much encouragement to come to our place, *we have a very peculiar people.* If a set of negro minstrels, or a monkey show comes along, they crowd the halls, but lecturers go away worse off than they come."

Six letters in one day, from points a hundred miles or more distant, each declared they had "a peculiar people;" the lecturer afterward visited each place, and found it true—they had a peculiar people; kind, hospitable, generous and intelligent; but the masses do not go much to lectures; they have no taste for them, they cannot enjoy them, they have not been cultured in that way.

Then again,—the mass of lecturers are too prosy, too scientific, too high-flown, too trancendental, and too mythical. The laborer is weary, he wants mirth and music to keep him awake; the school boy and girl —full of life and energy, want to laugh and clap hands; even the earnest thinker in many instances would rather pay a quarter to be amused and rested, than the same amount to be bored by an hour's talk that he cares nothing about. The matter is, that the majority of the people have too much sober, seriousness in work shop, kitchen, or counting room, to wish to hear what does not work in and become a part of their life. Many lecturers really suppose that their whole success depends upon using big words, making elaborate and flowery sentences, and rounding a point so beautifully, that it ceases to be a point at all.

It seems to me that the people of our towns are not peculiar, but perfectly natural. They want plain talk, such as every one can understand, coming right from the heart, and going right to the heart. The lecturer must be in earnest, not standing before them with written thoughts which it has taken him six months to put together, each word hunted from Worcester or Webster, and the whole elaborately committed to memory, with every motion and gesture fitted to its place like the parts of a steam engine, to be set in motion and run an hour and a quarter, no more and no less. There is no magnetism in such lectures, to common people who have not been educated in colleges and schools, up to the lecturer's stand point. They only ask—"What sympathy has he, with his white hands and fine broadcloth, with our trials and cares, our toils and struggles?"

We ask—What is the matter with the people, that they seek to be amused rather than instructed? and the answer is—Because the lecture room does not blend the two together, and too often fails to do either.

There is upper-ten-dom, that never goes out without a flourish of trumpets—only a fifty dollar lecture in the great hall of the city will secure their quarters. Lower-ten-dom rushes en masse to the monkey show, to laugh and shout, but the great body of the people, the sober, industrious, thinking class have not yet found their wants quite answered in either place. Upper-ten-dom is too grandiloquent and showy for them—lower-ten-dom too low and debased for them: who shall be found to answer to their need?

F. D. G.

Our Song Bird Returns.

Years ago, every reader of the *Ohio Cultivator* learned to love CULTIVATOR MARY, the girl who kept our mail books and wrote such charming things for our readers. She dropped out of our circle for a time, and went abroad into other labors. Last Spring she became a happy little wife, as she deserved to be, occupies a cozy little nook in our city, and here treats our readers to one of her good-hearted utterances as of old; but under a new name she has adopted. —ED.

For the Ohio Cultivator.

JUDGE NOT.

BY FANNY TRUE.

I thought he passed me coldly,
And I vainly wondered why;
There was a gloom upon his face,
A coldness in his eye.

He walked as one whose soul was wrapped
In some absorbing thought;
Those feelings on his features, had
Their work of sternness wrought.

I went my way adown the street,
And mid the passers by,
Kind words were heard, and answering smiles
Lit up each friendly eye.

And then I judged him wrongly,
And believed the genial glow
Sometimes seen upon his features,
Was, perhaps, affected show.

That his heart was cold and bitter,
With no sweet redeeming grace
Dwelling there to shed its brightness
Upward through that frowning face.

Next day the morning paper
Upon the table lay;
I took it eagerly, to read
The news of strife and fray.

And then I turned to read the "Deaths,"
The list contained but one,
And that was *his*, his eldest child,
His noble little son.

Then conscience with accusing voice
Charged home reproachfully;
The measure I had meted him
Was measured back to me.

I saw no anguish in that face,
I read no sorrow there,
But coldly judged all feeling lost
In some perplexing care.

Oh, gentle pity, wert thou blind,
That thus thou couldst not see
A deeper meaning in that look,
A father's agony?

When tempted next to harshly judge—
Oh, Charity divine!—
The faults of others, let me pause,
And humbly think of mine!

For the Ohio Cultivator.

Patch-work Bedquilts.

"Amanda" seems to invite a little discussion on the beauty, utility and economy of patch-work bedquilts, and by the way, she arrives at some strange conclusions as to the cost of such articles.

I know not by what process of mental arithmetic she sums up the total expense at the low figure of $1 75. Surely her *time* must be of no value, or her fingers must be far more nimble and expert than most of the sisterhood; for to manufacture any thing worthy of the name of a patch-work quilt, must require the constant labor of one pair of hands for more than two weeks, in piecing and quilting, to say nothing of the cost of batting and lining; and surely woman's labor is worth more than seventy-five cents per week. She must surely set down the odd bits of calico as of no value in her estimate.

But those housekeepers and maidens who are possessed of the bedquilt mania, do not content themselves with the setting together of odd bits of cloth that accumulate in the "calico bag," but a large portion of their labor is devoted to cutting up yards of new cloth into almost inch pieces, for the pleasure of sewing it together again. And very seldom is *beauty* the result of their labors, *economy, never.*

A woman who has anything to do,—a mission in life, will find very little time for patch-work quilts, unless it is at the expense of her intellect. Where is the economy of spending months of weary, monotonous toil in the production of a single bed quilt, when one could be made just as warm, just as pretty in a quarter of the time? All that is required for a bedquilt is good taste in the selection of suitable print, not the old fashioned "curtain calico" with its monstrous figures and glaring combination of colors, but simple and durable, run the breadths together, stuff it well with good batting, say

four pounds, if intended for winter use, or two for summer, and quilt or tie just enough to keep the batting in its place, and all that is desirable in a bedquilt both for comfort and beauty is secured at a trifling outlay of time and labor. But one of these closely quilted, *infinitesimal* patch-work quilts is enough to give a sensible woman "the blues" as she thinks of the time and labor misapplied in its creation. And the worst of it is the torture and life-long injury inflicted upon helpless girlhood by half crazy mothers who feel that woman's mission in life is to make bedquilts. No wonder the world is full of weakly women. Said a mother to me the other day—"My little girl (only seven years old) has pieced two bedquilts. She pieced one before she was *four years old!*" And she spoke of this as if it was a praiseworthy industry.

Now when a woman is past forty, and can find no more useful or profitable employment for her heart and hands than patchwork, we feel no inclination to try to "convert them from the error of their ways." But in the name of humanity we do most earnestly protest against the premature "slaughter of the innocents" at the altar of this folly. And when we see maidens and young wives and mothers wronging their own intellects by such useless toil, we feel like gently whispering to them—'there is a *better way.*' Would our fairs offer premiums for *common sense* bedquilts, instead of rewarding with the "first premium" the greatest folly on exhibition, we might hope for a reform in this matter. And if "time is money," (it is *more than money* to the wife and mother,) surely there is need of reform here.

CELESTIA R. COLBY.

Cherry Valley, Nov. 1861.

A Cure for Sore Lips.—Take glycerine, one ounce; pulverized golden-seal, one teaspoonful; sweet cream, one tablespoonful; pulverized blood-root, one half teaspoonful; simmer gently fifteen minutes, and strain. This ointment is almost a specific for sore lips. Apply four or five times a day.

If a man could have his wishes, he would double his trouble.

For the Ohio Cultivator.

NOT LOST.

It was long and long ago,
In the latest flush of the summer,
That my soul was heavy with woe,
For a mystical, fair new-comer
Came down to the beautiful world,
And claimed for the angels a sister—
Came down and darkened *my* world,
While she gained for the angels a sister.

I knew that the angels had sent her,
And two pairs of heavenly wings
Would go up in the morning and enter
The City, and silvery strings
Would welcome her coming, and lead her
Away to a throne of the Kings.

But she is not lost to me,
For, a thousand times and over,
I have seen her eyes in the stars,
Her lips on the blossoming clover;
I have found her breath on my mouth,
Escaped from the hearts of the roses,
Her brow in the clouds of the South,
Ere the gate of the sun uncloses.
So, I feel that my darling lives,
And with hope and trust infer
That the clouds, the stars and the flowers
Are the visible types of her!

Perry, Ohio. DON LLOYD WYMAN.

For the Ohio Cultivator.

The End of the Evil Days.

BY CARRIE MYER.

The king with a wondrous mien hath spoken—
'Tis the end of the evil days.
The bands of a fiery fate are broken
And scattered in lonely ways
Are they who winningly came to charm thee
With the fair outside of grace—
Who carried the hidden dart to harm thee,
While smiling they looked in thy face!

Tread firmly. The air is all fresh and bracing,
And fragrant with breathings of Hope!
No more mid tangled weeds interlacing,
Thy feet in the darkness grope;
And golden sunbeams are lavishly sifted
Thro' the meshes of mercy down;
And see, where the ruby clouds are rifted,
White hands holding a jewelled crown!

Dost wish again for the leaves unfading,
To twine round thy forehead the same
As when, in the evil days, o'ershading,
They gleamed in thy crown of fame?
No—no—thy purified vision hath rested
Too long on the glory above!
Those hands with a sacred power are vested
To give thee the crown of love.

Mt. Home, Ohio.

CONTENTS.

	Page.
The Organism of Soils—Adaptation to Crops	1
Preparation for Flax Culture	5
Old Time Farming in the West	6
Varieties of Timber Trees	7
Worms in Horses	8
Sore Tongue among Cattle	9
To Kill Bots in Horses; Inflammation of Bowels	10
Care of Hens in Winter; Benzole for Spirits of Turpentine; Grape Culture—Opposite Systems	11
Morgan Co. Beets; Soil for Grapes	12
Care of Fruit Trees; Late Strawberries	16
Agriculture and the Government; Annual Meeting	17
Retrospect of the Year; Sugar Growers' Convention; Swapping Papers	18
Mrs. Gage's Lectures; Grubs in Grass Fields	19
Spanish Jackies	20
Sugar Cane and Sugar Beet	21
Nails, Nuts, Screws and Bolts; Feeding Oats to Horses	22
Ottawa Co.—Grapes—Beet Sugar	23
Topping Sugar Cane; Switzerland Co., Ind.; Cuttings of Plants; Garden Royal Apple; Perennial Plants	24
Winter Protection to Flower Roots; Fancy Fruit Growing	25
Rabbits among Fruit Trees; Late Frosts and Fruit Culture	26
Tribulations of an Amateur; Raw-Hide	27
HOME DEPARTMENT.	
A Word to the Girls	28
Popular Lectures and Lecturers	29
Judge Not—Poetry; Patchwork Quilts	30
Not Lost, (Poetry); The End of the Evil Days, (Poetry); Cure for Sore Lips	31
Markets, &c	32

MARKETS.

No series of quotations of prices for the last week will be a safe dependence for future markets. The holidays have brought into the meat market the best qualities of beef and mutton, as also an avalanche of the best of poultry. This unsettles the trade in ordinary meats. After next week, we presume the markets will take shape for winter. Up to this writing the weather is warm, with very little freezing at nights, which operates against pork packing. Below we give the mail reports of the N. Y. Markets for last week. This week's market coming upon Christmas day, the report will be of no service as an index of prospective prices.

The Grain Markets are reported dull.

The liveliest feature of trade at this time, is the advance in some staple groceries, such as sugar and coffee. These articles are getting outrageously high, and many people will contrive to dispense with them, and fall back upon home-made coffee, from rye, sweetened with Sorghum.

New York Live Stock Market.

Beef Cattle.—This has been a high day in the cattle-yards. "Christmas Beef" is an institution in New York as well as in London.—Hitherto a few enterprising butchers have laid in one or more premium bullocks, and kept their carcasses out as a sign. This year there appears to be a general mania for prize beef, and the supply and price have put it in the power of many to gratify their taste or ambition. We are safe in saying that at no previous market have there ever been offered so many splendid fat bullocks as were in the yards to-day. There were whole droves of cattle, 20 or more in number, which would compete for premiums at the agricultural shows. The prices, too, favored the buyers, as compared with previous years. While the best went at prices equivalent to 9 to 10c for the dressed carcasses to-day, the same grades readily sold for 11¼ to to 12½c last year, and in former years at 13c to 16c. The beeves on hand to-day numbered only 4091, but the beef was equivalent to near 5000 of such cattle as are usually offered. The sales were brisk, and before night the yards were cleared from the last animal, Taking the average of all sales this week, and adding for comparison the rates of the previous market, we have the following prices per lb. for the estimated dressed weight:

	This Week.	*Last Week.*
Extras	9½@10c.	9 @9¼c.
First quality	8¼@9c.	8¼@8¾c.
Medium to good	7½@8¼c.	7 @ 8c.
Poor quality	6¼@6½c.	6 @6¼c.
Poorest quality	5 @6c.	5 @5½c.
General selling prices	7 @8¼c.	6½@ 8c.
Average of all sales	7¼@8c.	7¼@7½c.

The market closed firm at the above quotations. The cattle came from a pretty wide range of country, thus:—from New York, 1196; Ohio, 626; Illinois, 623; Indiana, 422; Kentucky, 347; Michigan, 244; Canada, 100; Iowa, 90; Connecticut, 80; New Jersey, 15.

Sheep are scarce, and 50c to 75c higher than last week. There has been a good show of fat meat for Christmas. One pen of 16 sold at $16 each. They weighed 227 lbs. when started from Duchess Co. Some others brought $18 to $20 each, but these were fancy prices for fancy stock. A lot of good sheep is worth 4c to 4½c. per lb., live weight; extra, 5 to 6c. Stock all sold.

Hogs have come in faster than ever before. The enormous receipts of 38,200 for a single week, is without precedent. With a heavy trade and lighter receipts for a day or two past, the pens have nearly been emptied, and a slight improvement is noted. Corn-fed hogs are worth 3½c to 3¾c, and still-hogs 3c per lb.—*Methodist.*

Leicester Hogs.

JOHN M. JOLLEY, BREEDER OF LEICESTERSHIRE Hogs Mansfield, Ohio. Size and early maturity. Pigs boxed and shipped to all points by Railroad.

f29-c3. 6m.